The Development Plan: A Process for Campus Renewal

Vol 19, Num 01
Jan-Feb 1981, Pg. 4-7

Gould, Bryant Putnam
Gould guides the reader through the process of creating a development plan for a higher education renovation project. Long-range college goals should guide any change in the physical infrastructure. Data on needs and available resources should be gathered and included in the development plan, along with planning input from all campus groups. The information collected is sythesized into an planning report, documenting program goals, timelines, and cost estimates.

From Shopping Center to School

Vol 19, Num 01
Jan-Feb 1981, Pg. 7-8

Wells, Weldon S. and Barney L. Kyzar
The A. Harris Shopping Center in Dallas, Texas was renovated into an East Oak Cliff District educational facility in 1979. The facility was located in the center of district overcrowding, making the site very accessible to its student population. Phase I of the project included the design of a student early childhood center, an intermediate school, a high school, and an administrative center. Phase II included a middle school, an amphitheatre, and storage spaces. The final cost per square foot was half of the average cost for new school construction in Dallas.

Personalized Instruction and Programs

Vol 19, Num 01
Jan-Feb 1981, Pg. 8-10

Castaldi, Basil
Personalized instruction tailors the teaching method and subject matter to the goals and strengths of each individual student. Although the implementation of personalized instruction seems difficult, the author describes several familiar practices that can aid in its practice. The design implications of personalized instruction and programming for higher education institutions are discussed.

Energy Extra: Energy Conservation and Passive Solar Techniques in Campus Renovation

Vol 19, Num 01
Jan-Feb 1981, Pg. 10-13

Probasco, Jack, Bender, Gerald F. and Chalay Kunawong
The article describes a procedure for analyzing the energy conservation and solar control potentials of existing buildings, to be used as a renovation guide. This method includes an assessment of passive building characteristics, such as the building envelope, room utilization and landscaping. Diagrams are provided.

Research: A Closer Look

Vol 19, Num 01
Jan-Feb 1981, Pg. 14

Leggett, Stanton
Leggett encourages practitioners to actively question and discuss research methods and findings in the field of educational facility planning with their collegues.

What's New in School Energy Savings

Vol 19, Num 01
Jan-Feb 1981, Pg. 15-18

Nickell, Joe
This article consists of a summary of energy-efficient practices in schools since 1977. Innovative practices in energy management systems, building design, and maintenace and operations are discussed.

The Organizational Climates of IGE and Open-Space Schools

Vol 19, Num 01
Jan-Feb 1981, Pg. 19-20

Pauley, Edward Raymond
Individually Guided Education (IGE), a concept that involves teachers working together to plan for the individual student, can be implemented in almost any school facility. An instrument designed to assess school organizational climate was used to analyze IGE and open space schools. IGE schools were rate higher than open space schools in several subtests. The author concludes that an open facility design does not ensure close interpersonal relationships without a program in place such as IGE.

School Lighting for the Total Person: A Psychobiological Approach

Vol 19, Num 02
Mar-Apr 1981, Pg. 4-7

Hughes, Phillip C.
Lighting is one of the most important aspects of the educational facility; beyond its vision-related benefits, quality lighting is associated with increased productivity and general health. The direct and indirect benefits of full-spectrum light to humans are discussed. The author asserts that sunlight-simulating lighting in classrooms would result in better health and productivity in our schools.

Early Childhood Programs: Handicapped Accessibility

Vol 19, Num 02
Mar-Apr 1981, Pg. 7-8

Brooks, Kenneth and Becke Cleaver
This articles describes research conducted on handicapped access in 13 urban early childhood facilities. An on-sight evaluation revealed that none of the centers could appropriately serve a handicapped child. Facility planners and architects must provide leadership in creating handicapped-accessible school facilities.

The Management Team Approach to the Selection of an Architect

Vol 19, Num 02
Mar-Apr 1981, Pg. 8-10

Anderson, Bruce R., Hawkins, Harold L., and Donald P. Ney
The authors describe the approach used by the College Station Independent School District in Texas to select an architect for their new school building project. Copies of the forms in the selection package are provided, along with information on how they may be used. The packet includes selection process steps and architect rating forms. This architect selection method is easily modified, and can be used by other districts embarking on new facility planning projects.

Surveying Schools—A Statewide Approach

Vol 19, Num 02
Mar-Apr 1981, Pg. 11-14

Peterson, Irving M. and Jules Gregory
In response to a State Supreme Court ruling, a comprehensive facility evaluation was conducted on each of New Jersey's 2,400+ schools. Performance criteria for the survey were established. The instrument included both a physical evaluation and an educational adequacy assessment. Two field evaluations were conducted on each building—one by an education specialist, the other by an architect or engineer. Information was entered into a computer program where a final report and evaluation score were generated for each school, along with a district summary. This survey can serve as a valuable assessment tool for planners and school officials.

Architect's Responsibility for Accuracy of Cost Predictions

Vol 19, Num 02
Mar-Apr 1981, Pg. 11

Stewart, G. Kent
In the 1974 case of Griswold and Rauma, Architects vs. Aesculapius Corporation, the Minnesota Supreme Court found that the client was obligated to pay the architect for services rendered, even though the project cost exceeded the bid. This case illustrates the importance of understanding the contract agreement and keeping the lines of communication open during the facility planning project.

SR3: Space Realignment, Renewal and Replacement

Vol 19, Num 02
Mar-Apr 1981, Pg. 14-17

Bareither, Harlan D.
The author describes how the SR3 (space realignment, renewal and replacement) budgeting concept can be used by higher education institutions to maintain their facilities. Maintenance budgets rarely include sufficient funds for long-term space renewal needs. A method for allocating and using SR3 funds is presented, using examples.

Use of Public School Facilities for Community Recreation in Texas

Vol 19, Num 02
Mar-Apr 1981, Pg. 17-18

Klemm, Paul
Texas districts were surveyed on the extent of community recreation use in their school buildings. All buildings were found to be available to communities, although many districts failed to publicize their availability. While school officials reacted positively to community use of their buildings, few actively encouraged the practice. This study indicates a need for community involvement in school planning, and promotion of school buildings as community resources.

Surplus School Buildings: Assets or Liabilities

Vol 19, Num 02
Mar-Apr 1981, Pg. 19-20

Rabinowitz, Harriet Y.
Disposing of surplus school buildings due to declining enrollment, structural defects, or shifts in population can cause legal problems for the district. School buildings belong to the state, and are subject to state regulations. Closing a school typically requries extensive documentation of the educational and financial justification, especially if the closing relates to integration practices. While selling school buildings is often a complicated process, selling to a government or humanitarian agency is sometimes an easier option. Leasing arrangements with appropirate organizations are another possibility. When making decisions regarding surplus school buildings, school boards should protect themselves by seeking legal counsel to ensure that they comply with their state regulations.

The Community of the 1980's: New Looks, New Approaches

Vol 19, Num 03
May-June 1981, Pg. 4-5

Collins, Michael
Community of the 1980's is faced with shifting population size and location, changes in family structure, and rapid technological innovation. Communities of the 80's are anti-institutional. School districts can learn from corporations, and market their public services to their consumers—the community.

CEFP's Movement into Community Education

Vol 19, Num 03
May-Jun 1981, Pg. 6-9

CEFPI
In 1978, CEFPI used special grant funding to form at Center for Community Education Facility Planning. The Center provided technical assistance to districts, professionals, and community members, along with establishing a national workshop series. This article documents the development of the three year program.

New Thrust for Community Education Project

Vol 19, Num 03
May-Jun 1981, Pg. 9-11

DeJong, William S.
This article provides an overview of CEFPI's Center for Community Education activities, as well as the lessons learned after three years. Community planning involvement needs a public relations campaign to convince decision-makers and community members of the value of this type of planning. Also, continued work through institutions and citizen groups will encourage the spread of cooperative planning efforts.

Participatory Planning at Work: The Upper Arlington Story

Vol 19, Num 03
May-Jun 1981, Pg. 11-13

CEFPI
This article documents the community laboratory conducted at one CEFPI Center for Community Education Facility Planning Site—Upper Arlington, Ohio. This district possessed surplus school facilities and needed to determine how this space could be best used. A Steering Committee was formed from different community groups with different interests. The committee was responsible for communicating activities to the community, collecting relevant data, and developing a promotional campaign. The day-to-day activities of the laboratory are described. At the conclusion, the district planned to renovate the surplus building for community purposes. The lab was considered a successful cooperative planning effort.

School Building Age and Pupil Achievement—A Further Discussion

Vol 19, Num 03
May-Jun 1981, Pg. 14-15

Chan, Tak Cheung
This article was written in response to an ongoing literary discussion of Chan's study on "The Impact of School Building Age on Pupil Achievement." Chan clarifies his research methods and reiterates his finding of a significant relationship between school building age and student achievement, controlling for socio-economic status.

Cooperative Planning Primer

Vol 19, Num 03
May-Jun 1981, Pg. SR1-SR8

CEFPI
This special packet provides an overview of the cooperative planning process for educational facilities. All stages of cooperative planning are thorougly discussed, including helpful checklists and flow charts.

Facility Planning—A Component of Comprehensive Planning

Vol 19, Num 04
Jul-Aug 1981, Pg. 4-5

Brooks, Kenneth
Brooks describes the expanding role of the educational facility planner. Too often, facility planning is not treated as part of the overall educational plan, but rather as an isolated response to a specific need. The planner is part of the education team and should be connected to higher organizational goals.

Responsibility for Cooperative Planning

Vol 19, Num 04
Jul-Aug 1981, Pg. 5-7

Gardner, Dwayne E.
Gardner describes the changing role of the educational facility planner of the 1980's. The work of future planners will be proactive rather than reactive. Trends such as community planning and lifelong learning will impact future planning efforts.

Environmental Barriers and Their Impact on Students

Vol 19, Num 04
Jul-Aug 1981, Pg. 7-8

CEFPI
A recent study of handicapped students in secondary and higher education institutions revealed the most common barriers to building access to be entranceways, multi-level buildings, restrooms, and classrooms. The presence of these barriers were shown to affect student attitudes. Accessibility would be improved if handicapped students were involved in the facility planning process.

Role Changes for the Educational Facility Planner

Vol 19, Num 04
Jul-Aug 1981, Pg. 8-11

McGuffey, C.W.
McGuffey provides an historical account of the development of the facility planning profession, and a current view of the planning specialist in the face of social and economic changes. Planners must actively seek knowledge and develop their professional skills to be able to respond appropriately to current planning issues. McGuffey asserts the importance of teamwork in meeting educational facility planning and design challenges.

Preparing Planners for Unknown Futures

Vol 19, Num 04
Jul-Aug 1981, Pg. 11-14

Steele, Marilyn
Social and economic changes such as the energy crisis, population shifts, technological innovation, and educational developments like lifelong learning have a profound impact on the educational facility planning profession. Future planners will have a three-part role: group facilitator and consensus-builder; information specialist; and technology consultant. In order to meet the needs of tomorrow, planners will need to be trained in a broad variety of subjects, such as a liberal arts education.

Withdrawl of Mistaken Bids

Vol 19, Num 04
Jul-Aug 1981, Pg. 14

Stewart, G. Kent
The legal policy on mistaken contractor bids reveals an expectation that the contractor quickly notify the client of a bid error prior to the awarding of that project. Court cases are provided as evidence.

Methods of Compensation for Design Services

Vol 19, Num 04
Jul-Aug 1981, Pg. 15-17

Epperson, David R.
Epperson presents findings of a survey of school superintendents to determine how districts assign architectural/engineering project fees for capital outlay projects. Common methods are discussed, including flat fees and percentage fees. Design professional selection through bidding is also discussed.

Energy Extra: CEFP's Responsbility in the Energy Future

Vol 19, Num 04
Jul-Aug 1981, Pg. 17-19

Anderson, John
This column describes the Energy Plan estabished by CEFPI in 1980. The future of educational facility planning will be fundamentally shaped by the energy crisis. Planners have the power to shape future energy consumption. CEFPI's Energy Plan includes 14 energy-related issues, including a plan of action.

Solar Energy for Heating and Cooling Schools

Vol 19, Num 04
Jul-Aug 1981, Pg. 19-21

Johnson, Elsie
The energy crisis may inspire schools to consider solar energy as a heating and cooling method. Johnson suggests a cost analysis method for evaluating the cost effectiveness of investing in a solar energy system. Energy management recommendations related to site selection, building design, HVAC, and lighting are also provided.

Environmental Design Factors Appropriate to the Planning of Public Library Facilities

Vol 19, Num 04
Jul-Aug 1981, Pg. 22

Veatch, Julian Lamar
The author applies the principals of environmental design to library planning. Results of a survey are presented, indicating that library consultants find environmental design information relevant and useful to the planning of library buildings. The author recommends incorporation of environmental design methods in future library planning and architecture.

Perpetual Order and the Growth Possibility or Limitation of Buildings

Vol 19, Num 04
Jul-Aug 1981, Pg. 22-23

Charoenpong, Tanit
The author conducted a research study analyzing the growth possibilities of buildings. Open buildings possess greater growth possibility and are more likely to remain visually orderly at all growth stages than closed buildings. Building openness and closedness were found to relate to perceptual order in architectural theories.

Legal Considerations for a Joint Occupancy Program

Vol 19, Num 05
Sep-Oct 1981, Pg. 4-5

Posilkin, Robert
Using the Montgomery County Board of Education in Maryland as a case study, the author discuses the legal implications of utilizing surplus space in a joint occupancy program. Issues related to the board of education's leasing authority, fee structure, and the leasing agreement are covered.

How to Talk to a Reporter

Vol 19, Num 05
Sep-Oct 1981, Pg. 5-6

Crenson, Gus
The author presents guidelines for educators when talking to the media on school planning issues. Guildelines include information on communicating clearly and what to do if you are misquoted.

Options in the Construction Process

Vol 19, Num 05
Sep-Oct 1981, Pg. 6-10

Craig, James W. Jr.
Craig briefs education administrators on the basics of the construction process to enable informed decision-making during the facility planning process. Contracts and bid-systems are discussed, as well as design-bid projects and construction management techniques. Methods for estimating project cost, along with cost-saving tips, are also included.

ATBCB Accessibility Guidelines Published

Vol 19, Num 05
Sep-Oct 1981, Pg. 11-12

CEFPI
An announcement is made on the availability of published accessibility guidelines for public buildings by the Architectural and Transporation Barriers Compliance Board. The guidelines apply to all U.S. government or public use buildings, and buildings built with federal funds.

A Network of Regional Day Schools for Severely Handicapped Students

Vol 19, Num 05
Sep-Oct 1981, Pg. 11

Johnson, W. Frank
A New Jersey bond issue allowed the creation of 11 schools for handicapped children. Johnson provides a very brief overview of the collaborative planning process used to design these special facilities.

Demographic Trends and Their Meaning

Vol 19, Num 05
Sep-Oct 1981, Pg. 12-13

Cunningham, Luvern L.
Cunningham raises issues regarding the effect of migration shifts on educational facility planning considerations. Factors such as state immigration policies, presence of migrant workers, and changes in socio-economic distribution will increasigly effect facility planning efforts for many communities.

Research Review: Pre-Employment Criteria in the Selection of Facilities Consultants

Vol 19, Num 05
Sep-Oct 1981, Pg. 14

Hutton, David Murray
A survey of school administrators in five midwestern states was conducted to determine the criteria used when hiring a facilities consultant. Important qualities listed included technical competance, knowledge of school organization, and new facility and curriculum expertise, among other items. A significant number of administrators would recommend the use of a facilities consultant for a school building project.

Trends in the Planning and Design of School Facilities

Vol 19, Num 06
Nov-Dec 1981, Pg. 4-5

Brubaker, C. William
Current and future trends in school facility design are discussed. Contemporary schools are utilizing energy conservation methods (such as the compact building) and environmental design techniques. New schools are designed to reflect their regional character. The "urban" school design has received increasing recognition as a design challenge. The author forcasts what effect population and enrollment changes will have on schools of the future.

Architects View Trends in Educational Facility Planning

Vol 19, Num 06
Nov-Dec 1981, Pg. 5-8

Jensen, Bruce H.
Jensen describes data gathered by the Association of University Architects (AUA) on education and facility planning trends. He discusses the effect of trends in new building construction, remodeling, code compliance, master planning and programming on the roles of educators and architects.

The Changing Role of an Architect

Vol 19, Num 06
Nov-Dec 1981, Pg. 9

McKittrick, Thomas L.
This short article summarizes a 1991 AIA report on the changing role of architects. The AIA predicts future architects will be more like artists than technicians, providing leadership in creative design of the external environment.

Saving School Sites—Phased Construction

Vol 19, Num 06
Nov-Dec 1981, Pg. 9-10

Schrader, Charles F.
Schrader presents the "phased construction" concept as a method of replacing an outmoded school while preserving the physical features of the site. In phased construction, demolition and construction are planned to occur more than once. In many cases, parts of the existing building can continue to be used during the replacement process. Schrader provides a case study of a replacement high school in Sacramento, California. The four phases of their replacement project are described, and site plans are provided.

Facilities for Gifted Students

Vol 19, Num 06
Nov-Dec 1981, Pg. 11

Sullivan, Molly
One recent education trend presenting facility design challenges is the integration of special student populations into mainstream classroom environments. Gifted children have unique intellectual and social needs, requiring easy accessibility to classroom resources and technology. Space should be flexible enough to accommodate project-based learning.

Selling Energy

Vol 19, Num 06
Nov-Dec 1981, Pg. 12-14

Anderson, John D.
While there may no longer be a line at the gas station, the energy crisis is not over. Facility planners who have difficulty selling their schools on energy conservation may have more success if they approach it from an economic standpoint. Energy costs continue to escalate. Planners can take a leadership role in reducing design and operating costs (i.e. life-cycle costs) through energy conservation methods. By presenting research on the school's energy situation and how it relates to the building design and operation, the planner can illustrate how a higher initial cost might equal a much lower life-cycle cost.

Value Engineering

Vol 19, Num 06
Nov-Dec 1981, Pg. 14-16

Lawrence, Jerry
Lawrence profiles the Washington School Facilities Cost Stabilization Program, a program designed to stabilize school facility-related costs, reduce construction time, and provide high quality, adaptable schools. One of the methods utilized is value engineering, a creative means of assessing facility and equipment life-cycle costs. Implementation of a successful value engineering program requires a team of educators, architects, engineers, and a VE consultant. Value engineering is a cost-effective way of meeting the facility and educational needs of the school district.

Research Review: Texas Study to Provide Purchasing Guidelines for Equipping Facilities

Vol 19, Num 06
Nov-Dec 1981, Pg. 17-18

Marshall, Donald F.
Research was conducted to determine purchasing guidelines for small Texas school districts buying furniture and equipment. Data was gathered from a literature review on school purchasing practices, and a questionaire distributed to Texas school districts. The data will inform the development of guidelines for school building projects.

Development of Facilities Through Alternative Funding Methods

Vol 19, Num 06
Nov-Dec 1981, Pg. 18-20

Trittipo, John R. and Stephanie Austin
The authors discuss alternative approaches to acquiring funds for educational facilities during a slow economy. Methods discussed include developer liens, state assistance, developer fees, leasing facilities, and joint occupancy programs.

Types of Building Construction Related to Energy Consumption and Costs

Vol 19, Num 06
Nov-Dec 1981, Pg. 20-22

Cottrell, Milford C. and Raymond W. Wittenberg
This article provides background on a study to determine the relationship between building design, lighting and mechanical systems and energy consumption. The Jordan School District in Salt Lake County, Utah underwent an evaluation of its 49 school facilities, and their energy consumption costs. Based on the study's conclusions, the authors recommend schools develop a master plan for energy that accounts for design differences in energy consumption.

The School's Designed Environment: Implications for Understanding Stress

Vol 20, Num 01
Jan-Feb 1982, Pg. 4-6

Conners, Dennis A.
Conners explores the ways in which the constructed environment may affect the social interaction, wayfinding, and spatial orientation of users. Schools need to be designed to create minimal stress for their users.

Desegregation—Impact on Facility Planning

Vol 20, Num 01
Jan-Feb 1982, Pg. 6-7

Kimball, Byron
In preparing for desegregation action, planners must work with demographers to predict how desegregation will affect enrollment trends. Planners must assess community attitudes to predict enrollment changes due to ethnic flight. The planner should be actively involved in the development of the desegregation plan.

A Geographic Analysis System for Studying Attendance Boundaries

Vol 20, Num 01
Jan-Feb 1982, Pg. 7-9

Hanson, Thomas J.
Hanson describes the Geographic Analysis System, a computer system designed by Denver Public Schools to plan school attendance boundaries. The capabilities and applications of this system are explained.

Extending the 180-Day Year for Handicapped Students

Vol 20, Num 01
Jan-Feb 1982, Pg. 9

CEFPI
The implications of extending facility use through the summer for exceptional children are discussed. Staffing, scheduling, transportation, climate control and other factors must be considered when planning for an extended school year.

Psychology and the Use of Color in Educational Spaces

Vol 20, Num 01
Jan-Feb 1982, Pg. 10

Salaga, Vivian
The author raises questions regarding the effect of color on human responses. Our visual environment carries a sensory message. Just as overstimulation may provoke a stressful reaction, so may visual monotony cause strees from sensory deprivation. Environmental alienation may effect behavior and learning potential.

Can We Afford to Ignore Our Physical Facilities?

Vol 20, Num 01
Jan-Feb 1982, Pg. 11-12

Probasco, Jack
Higher education institutions must plan today for impending facility renovations/replacements due to age and deferred maintenance. Deferring maintenance increases facilty costs exponentially; as repairs accumulate, construction costs continue to rise. The long term costs of deferring repairs must be calculated—the financial costs and the educational costs.

Client Claims Against Architects

Vol 20, Num 01
Jan-Feb 1982, Pg. 12-13

CEFPI
An architect's performance is legally evaluated based on how well s/he fulfilled the duties specified in the contract. If an architect's performance falls short of the contract, the client must be prepared to show a loss from the alleged failure. Performance failures for which the courts have allowed claims are listed.

Campus Operations and Energy Conservation

Vol 20, Num 01
Jan-Feb 1982, Pg. 13-14

Carinci, Richard
The author describes Hartford College's Energy Management Program, a maintenance and operations program designed to reduce energy consumption without compromising university activities. Preventative maintenance funding was priortized. The program achieved significant energy savings through upgraded maintenance on campus building systems and steam distribution.

What Happened to Open Space Schools?

Vol 20, Num 01
Jan-Feb 1982, Pg. 14-18

Kroner, Walter
Kroner conducted interviews and on-site observations at 60 U.S. schools regarding their perception of open space school design. Open space schools created "innovative shock" for many users, especially teachers who had previously taught in traditional facilties. Curriculum planning for open space requires more effort and expertise than planning for traditional space. A modified open plan is described, one that minimizes the negative effects of open space, while still remaining flexible. Kroner makes general comparisons on the open space trend in the U.S. and Germany.

Environmental Barriers and Handicapped Students

Vol 20, Num 01
Jan-Feb 1982, Pg. 19-20

Miller, Milford A.
Despite legal mandates, educational facilties continue to fall short of accessibility standards for handicapped students. Physically challenged students are frequently excluded from above ground classrooms and specialized facilities, such as laboratories. Restroom access continues to be a problem with students in wheelchairs. Lack of accessibility affects student attitudes about their schools.

Lessons Learned from Earth Covered Structures

Vol 20, Num 01
Jan-Feb 1982, Pg. 20-21

Hlavin, Alton
The Terra-Center, a progeny of Terraset Elementary in Virginia, maximizes energy efficiency through an earth-covered design. The author provides recommendations for designing earth-covered buildings, such as waterproofing, mechanical, energy and HVAC systems. The Terra-Center design saved thousands of dollars per year on energy consumption compared to a control school.

State Involvement in Planning and Funding Multi-Agency Schools

Vol 20, Num 01
Jan-Feb 1982, Pg. 21-22

Chick, Charles E.
The author provides guidelines for using the state as a catalyst for implementing a cooperative multi-agency school program. The state can promote interagency cooperation through conversion plans, funding incentives and media campaigns, among other methods.

The Federal Influence: Initiatives and Implications Affecting Planning and Designing of Public School Facilities

Vol 20, Num 02
March-April 1982, Pg. 4-6

Chase, William W.
Chase provides an overview of federal legislation that affects school building design and operation, such as the Occupational Health and Safety Act, the National Historic Preservation Act, and Title IX, among others. The Reagan Administration's legislation is also discussed, such as their proposal to dismantle the federal Department of Education.

The State of Influence: Yearning for the Good Old Days

Vol 20, Num 02
Mar-Apr 1982, Pg. 6-7

Hick, Basil
Hick argues for decreased federal regulation of education, from a facility planner's perspective. If planners and other school professionals put greater thought into the effect their actions have on other individuals and departments, such regulations would be unnecessary. Increasing the organizational complexity of school operation often results in confusion over regulations.

The Influence of Community Change

Vol 20, Num 02
Mar-Apr 1982, Pg. 8-11

Bussard, Ellen and Alan Green
This article discusses several aspects of community change, and cooresponding educational facility needs. Demographic shifts, declining enrollment levels, and rise of single parent households impact education as well as other community institutions. Prior planning is required to effectively cope with enrollment changes and surplus space. One solution is the creation of smaller, specialized classes or incorporation of a community-use program. The logistics of leasing a surplus school to a community arts program are discussed.

The Influence of Community Use of Schools: Some Clues

Vol 20, Num 02
Mar-Apr 1982, Pg. 12-13

Bussard, Ellen and Alan Green
Community schools are models in collaborative planning and cooperative use. A method of evaluation is presented for determining how well a community school meets its intended goals.

Is There a Symbiotic Relationship Between Public Education and Regional Planning?

Vol 20, Num 02
Mar-Apr 1982, Pg. 14-15

Lilly, Edward R.
Individual behavior and cultural development are shaped by both the natural and constructed environment. Humankind must actively shape its environment to avoid an impending environmental crisis. A partnership between education and regional planning efforts would result in facility planning which reflects social and regional characteristics, and the creation of positive environments conducive to human development.

Research Review: Impact of School Renovation on Residential Property Value

Vol 20, Num 02
Mar-Apr 1982, Pg. 16-17

Sampson, John W.
This article profiles a study on the effect of school recycling and renovation on surrounding property value in Grand Rapids, Michigan. Research revealed that property value increased at a faster rate in neighborhoods with recycled schools than the control neighborhoods. Presence of a recycled school was not found to affect the number of property transactions.

Comprehensive Special Education in Rural Areas

Vol 20, Num 02
Mar-Apr 1982, Pg. 18

CEFPI
This brief summary of a 1981 report by Doris Helge analyzes the factors preventing implementation of the Education for All Handicapped Children Act of 1975 in rural areas. Cultural, geographic, climatic, and socio-economic barriers reduce the level of special education services available to rural student populations.

Adaptive Re-Use of Surplus School Space

Vol 20, Num 03
May-Jun 1982, Pg. 1-2

Brubaker, C. William
Declining enrollments nationally have resulted in surplus school space for many districts. Before closing a surplus building, school districts should consider the possibility of recycling the building for an alternative use, such as a community center. A school facility evaluation should inform decisions on which building(s) to close. A building's re-use potential can be assessed by considering community needs along with building access and zoning, among other information. Examples of successful school building recycling are provided.

Adaptive Re-Use of Surplus School Space

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Brubaker, C. William
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Surplus Facilities—A Management Model

Vol 20, Num 03
May-Jun 1982, Pg. 04

Chase, William W.
This article briefly outlines the factors to consider when analyzing the disposition of surplus school buildings. A effective management model allows districts to better utilize funds and real estate.

School Closure and Reuse: The Value of a Political Approach

Vol 20, Num 03
May-Jun 1982, Pg. 09-11

Cook, Dale L.
Cook discusses an alternative appoach to school closure/reuse decisions. A political approach opens the decision-making process to the community. The development of different reuse plans that reflect community values will reduce conflict and give the community a voice in the process.

"Land Banking" of Educational Facilities—An Alternative to Sale in Jacksonville, Florida

Vol 20, Num 03
May-Jun 1982, Pg. 11-13

Hill, Frank L.
Hill discusses the benefits of long-term leasing of suplus schools. What is surplus space today may be needed tomorrow, especially in urban areas undergoing revitalization. Jacksonville, Forida is discussed as a case study for long-term leasing of surplus space to community and government organizations.

Close It, Sell It, or Lease It: What To Do With That Old School

Vol 20, Num 03
May-Jun 1982, Pg. 13-14

Baker, Bill
Baker stresses the importance of involving the community in school closure decisions. Brevard County, Florida's school closure practices are discussed, including their use of citizen committees. Including the community in the decision making process reduces the liklihood that the closure will be disputed by the public or become a campaign issue. Options for dealing with surplus space are listed.

New Life for Old Schools Revisited

Vol 20, Num 03
May-Jun 1982, Pg. 15

Graves, Ben
Graves describes creative reuses for surplus school buildings. He discusses a study conducted in Tucson, Arizona that found many districts had closed or converted school buildings over a five year period.

New Life for College Dormitories—A Case Study

Vol 20, Num 03
May-Jun 1982, Pg. 18-19

Deselms, Haroid
Peru State College was faced with surplus dormitory space after enrollment decreased in the 1970s. As a solution, they renovated the Majors Hall residence facility to become part of a new recreation center. The author describes the unique renovation project and the services provided by the recreation facility.

Des Plaines District Administrative & Leisure Center

Vol 20, Num 03
May-Jun 1982, Pg. 19-20

Sternberg, Julie B.
Sternberg describes the conversion of a suplus elementary school into a community activity center in Des Plaines, Illinois. The elementary facility provided flexible space and room to grow for the community center, at a cost of $32.81 per square foot.

This School is (Closed) Open

Vol 20, Num 03
May-Jun 1982, Pg. 20-23

Kerns, Marilyn A. and Vasil Kerensky
This article includes a detailed description of the conversion of a 143,550 square foot junior high school into the Fairview Community School Center. Services provided in the new facility include adult education, early childhood education, community health, a senior citizens program, enrichment classes, aquatics, and a career center. The Center also houses several social service and non-profit agencies.

Conversion of Green Knoll Elementary School to Bridgewater Township Municipal Building

Vol 20, Num 03
May-Jun 1982, Pg. 24-25

Klein, Harold M.
Currently, some districts find themselves with excess school space, while municipalities are in need of space. Renovating surplus space for municipal use is a solution that works well for all involved. Klein discribes the renovation of Green Knoll Elementary School into the Bridgewater Township Municipal Building. A bond ordinance funded the project. The old municipal building is now being used by the municipal court and police department.

Conversion of Peapack/Gladstone Elementary School to the Peapack and Gladstone Municipal Complex

Vol 20, Num 03
May-Jun 1982, Pg. 27

Fasulo, Joan
The author briefly describes the factors that led to the decision to convert a closed elementary school into a municipal complex. Community members were actively involved in planning the project. The converted building will house municipal offices, court facilities, and a recreation and community center.

What Do We Do With the Old School Buildings?

Vol 20, Num 03
May-Jun 1982, Pg. 28-30

Kane, William J.H.
Facing the closure of several school buildings, Lansing School District found creative uses for its surplus space. The District transformed its unused space into a health center, elderly housing, a township building, and private office space. Kane provides examples of Lansings adaptive reuse of space.

Eurpoean Study Tests Evaluation Procedures

Vol 20, Num 03
May-Jun 1982, Pg. 31-33

Rip, Wim
Rip summarizes research conducted in the Netherlands to test a school building evaluation instrument based on user perception. Two newer schools with differing educational conceptions were selected for study. The researchers assessed teacher and student perception of building condition, size, flexibility, equipment and atmosphere, using the instrument. The results were later compared to actual ergonomic and techical measurements of classroom condition.

Energy Conservation Retrofit

Vol 20, Num 04
Jul-Aug 1982, Pg. 4-5

Butterworth, E.A.
Energy conservation retrofit is the modification of the engineering systems of existing buildings to reduce energy consumption. Cost effective ways to retrofit a school building for energy conservation are highlighted, including HVAC, terminal reheat, dual duct, and power plant retrofits.

Money for Energy Conservation

Vol 20, Num 04
Jul-Aug 1982, Pg. 6-7

Yewell, John W.
All potential funding sources should be seriously considered when developing energy conservation projects. The author explores financing possibilites for conservation projects. If traditional funding is unavailable, districts should consider unusual funding sources such as an energy services company. An energy services company is paid less than current energy costs; the contractor profits by reducing consumption significantly below cost. Company references are included.

Weathertightness and Insulation

Vol 20, Num 04
Jul-Aug 1982, Pg. 8-10

AIA
Adapted from the AIA's "Architect's Handbook of Energy Practice," this article presents guidelines on insulating buildings for better internal climate control. Outdoor air infiltration can be reduced by creating weathertight structures, caulking cracks, and weather stripping windows and doorways. Methods for adding insulation to both lightweight and heavyweight construction are described, as well as roof insulation.

Passive Solar Retrofit

Vol 20, Num 04
Jul-Aug 1982, Pg. 11-12

AIA
Passive solar retrofit is the addition of solar energy equipment to an existing building. Guidelines for creating sunspaces are presented. Tulluride School in Colorado is presented as a case study of a sucessful solar retrofit, using a Trombe Wall configuration.

The Occupancy Audit—A Tool for Use in School Energy Conservation

Vol 20, Num 04
Jul-Aug 1982, Pg. 12-13

L'Hote, John D.
An occupancy audit is an hourly survey of a building to determine what rooms are in use at different times (the maximum use level is expressed as a percentage). Thermal conditions are then evaluated according to use patterns. Energy conservation is achieved by regulating thermal conditions by room. Several energy systems allowing individual room control are discussed.

School District Reaps Financial Benefit of Energy Retrofit

Vol 20, Num 04
Jul-Aug 1982, Pg. 14-15

Buehrer, Huber H.
This article describes Wauseon Public Schools' participation in a federal grants program to retrofit school buildings for energy efficiency. A listing and description of their energy modifications are provided. Wauseon's annual energy costs decreased by over 30 percent.

Utility Company Rebates: The Energy Management Approach

Vol 20, Num 04
Jul-Aug 1982, Pg. 15-17

Fuller, Robert H.
Fuller provides information on how to develop an energy management program with utility company rebates. Examples are provided, along with tables documenting energy use and savings of several institutions.

Housing of the Mentally Retarded—The Public's Reaction

Vol 20, Num 04
Jul-Aug 1982, Pg. 18

Brooks, Kenneth
Housing of the mentally disabled has changed from an institutional style to smaller units located in neighborhoods. Recent polls reveal a growing public acceptance of integration of mentally disabled housing into neighborhoods. Postive community attitudes increase the options of social and educational facility planners.

A Time for Change—Major Questions Answered

Vol 20, Num 06
Nov-Dec 1982, Pg. 4-5

Sidesinger, Marvin R. and G. Kent Stewart
The experience of a Kansas school district renovating their high school and junior high school provides insight on citizen involvement in school planning decisions. The Board of Education cooperated with citizens to determine the best long-range plan for facility improvement, according to the needs of the district, and successfully passed a $7.4 million referendum to expand two facilities. The authors discuss the development and approval of the facilities plan.

Renovating for Extended Use—A New Legal Implication

Vol 20, Num 06
Nov-Dec 1982, Pg. 6-7

Shoop, Robert J.
As fewer taxpayers have children in public education, the connection between the community and its schools weakens. Community education allows participation by community members in educational planning and facility use. However, implementation of the community school concept has presented legal challenges relating to the proper use of tax revenue and public facilities. The results of one such lawsuit in North Carolina are discussed, where the constitutionality of community education was upheld.

Human Engineering in the Planning Process

Vol 20, Num 06
Nov-Dec 1982, Pg. 7-9

Stewart, G. Kent
Stewart recommends a high degree of community involvement in planning for educational facility renovation or construction. Superintendents should investigate community needs and attitudes prior to developing a plan. Community members should be included in the planning committee, working with the superintendent and the architect. Attention to the human aspects of planning leads to a better facilities plan and greater public approval.

Planned Maintenance—A Key Ingredient in Long Term Facility Use Options

Vol 20, Num 06
Nov-Dec 1982, Pg. 9-11

Sweet, Gary
Proper maintenance ensures continued use of a facility. A facility manual can aid in facility management practices and decision-making regarding renovation and modernization. Sweet provides an overview of facility management activities, types of maintenance, and the benefit of utilizing a facility manual.

Owner's Right to Reject Bids

Vol 20, Num 06
Nov-Dec 1982, Pg. 11

CEFPI
While a good faith bid rejection is an acceptable practice for a public officer, some states require that rejected bidders be given the right to a hearing. As citizens expect increasing accountability from their government, officials will need to be more aware of acceptable reasons for rejecting bids.

Renovate Successfully While School is in Session? Yes!

Vol 20, Num 06
Nov-Dec 1982, Pg. 12-13

Sholar, Duane and Vivian Salaga
The authors discuss the challenges of renovating a school building while school is in session. Clear scheduling of activities and areas of responsibility will contribute to smooth operation of school and construction activities. Facility safety and security is a special concern; security personnel is often required to protect school property and students. Communication on the procedures and schedule of the renovation work is the key to a successful project with minimal inconvenience.

The Construction Management Alternative

Vol 20, Num 06
Nov-Dec 1982, Pg. 14-18

Haltenhoff, C.E. (Ed)
Although the construction management project delivery system was originally intended for large, long-term projects, its practice has evolved to fit projects of all sizes, including renovations. Construction management techniques benefit renovation projects through improved coordination, project continuity and cost tracking.

Colorado Outdoor Education Center for the Handicapped — Breckenridge, Colorado

Vol 21, Num 01
Jan-Feb 1983, Pg. 02-02

Nancy McKinley and Bruce Werber
McKinley and Werber discuss the Colorado Outdoor Education Center for the Handicapped (COECH) program and its goals. The program is established to serve people challenged by various handicapping conditions and is designed to tailor outdoor experiences so that all participants can both experience "back to the basics" living and experience success in outdoor activities which stretch their level of development. The facility is located on thirty-eight acres in the Ten Mile Range near Breckenridge, Colorado and adjacent to the Arapahoe National Forest.

The Vinland National Center: A National Resource for Positive Health

Vol 21, Num 01
Jan-Feb 1983, Pg. 02-05

John Galland
Galland discusses the program at Vinland Center. It is a healthsports, education and life style training center for people who are disabled. The program includes six major components: healthsports, health promotion education, life enhancement, basic and applied research, professional education, and public information. It is a 175 acre facility located in Minnesota and serves from twenty to eighty persons in programs ranging from five days to three weeks in length. "The facilities are designed to support the development of new ways to improve the process of physical, mental and social restoration." The structures will include housing, administration, gymnasium, pools, and various lecture and seminar rooms.

Rotarians Respond to the Recreational Rights of Disabled Individuals in Mesa, Arizona

Vol 21, Num 01
Jan-Feb 1983, Pg. 06-07

George Bliss, II, Maurice Bateman, Guy Spiesman and Henry Haws
Bliss, Bateman, Spiesman and Haws describe the development of a park which provides equally for participation by handicapped and non-handicapped citizens. Four Rotary clubs, the city of Mesa and private donors came together to plan and develop the park. Unique aspects of the park provide water activities for wheelchair dependent persons as well as able bodied, a fitness trail which is equally suitable for the handicapped, extra wide walkways to facilitate wheelchair use, and picnic tables with fixed seating on only one side. A very successful project demonstrating a major community effort.

Will-a-Way: Georgia's Unique Facility for the Handicapped

Vol 21, Num 01
Jan-Feb 1983, Pg. 08-09

Sharon Fitzgerald
Fitzgerald describes the program at Will-a-Way which provides day use facilities as well as camping programs within a larger state park. She addresses the special characteristics of flooring, windows, toilets, showers, doors, walks, exterior lighting, heating, construction, cabins, pool, beach area, nature trail, fishing bridge, boating, recreational activity area, and games and equipment as they were developed to provide access and opportunity for the handicapped. All areas are accessible and housing is provided for families of handicapped individuals who are participating in camp activities. The purpose of Will-a-Way is to encourage participation by disabled persons in outdoor recreational activities in an area where all physical barriers have been removed.

White Oak Village Offers Wide Variety of Recreational Facilities for the Handicapped

Vol 21, Num 01
Jan-Feb 1983, Pg. 09-11

Edward Lehew and Shirley Lehew
Lehew and Lehew explain the program at White Oak Village, a handicapped facility serving a five state area and contained within Mountwood Park, Wood County, West Virginia. The facility is designed to meet the following goals: 1. Achievement of enjoyment, satisfaction, and fulfillment by the handicapped participant to the highest level possible; 2. Achievement of equality of opportunity in leisure activities, the arts, recreation, parks and culture by the disabled participant; 3. Mainstreaming to the maximum extent possible into everyday recreational activities; and, 4. Support for medical, educational, social, or vocational rehabilitation plans and programs which have been developed for the handicapped individual or group. Special architecture design is evident throughout White Oak Village. Equipment used, food served and programs formulated are geared to the exclusive enjoyment of a wide range of disabled visitors of all ages.

The Alabama Space and Rocket Center: The Second Decade

Vol 21, Num 01
Jan-Feb 1983, Pg. 12-13

Edward O. Buckbee
Buckbee presents a history of the Alabama Space and Rocket Center in Huntsville, Alabama and a brief rundown of the attractions available there. His article serves as an introduction to the three articles which follow. He observes that there is an education responsibility being met at the present center and the future thrust is to develop that into a primary facility.

Planning the Recreational-Education Complex of the Alabama Space and Rocket Center

Vol 21, Num 01
Jan-Feb 1983, Pg. 13-15

Bettye B. Burkhalter and Alexia McKartis
Burkhalter and McKartis recount the process used to develop the master plan for the recreational - educational complex. The center was to be accessible and provide opportunities for families disabled and elderly. The steps were as follows: 1. The establishment of goals. 2. A needs assessment. 3. An analysis of the environment. 4. The formulation of performance objectives and priorities to achieve the goals established. 5. Development of strategies for obtaining objectives and goals. 6. The development of the master plan including long-range and short-range objectives and goals. 7. The evaluation process and performance. The foresight of the Governor and those who outlined the plan assured a successful outcome to the planning effort.

A Team Approach to Designing the Recreational - Education Complex

Vol 21, Num 01
Jan-Feb 1983, Pg. 16-19

James P. Curtis
Curtis makes reference to a planning team which developed the master plan for the Recreational - Education Complex at the Alabama Space and Rocket Center, Huntsville, Alabama, then describes the process by which the then current facility was evaluated to determine which buildings and displays could be incorporated into the new program and where new construction would be required. All specifications were based upon the premise that the educational and recreational activities would facilitate mainstreaming all people into normal activities yet provide special programs and services for those who need them. The final plan included an activity center family cottages, faculty cottages, a lodge, an active area, a passive area, and a lake. The planning process produced a comprehensive master plan.

Partners in Progress: A Responsible Approach

Vol 21, Num 01
Jan-Feb 1983, Pg. 19-20

Bob A. Davis and William H. Wallace, Jr.
Davis and Wallace discuss the financial aspects of the Alabama Space and Rocket Center and identify the sources of funding which enabled construction of the center. Federal funds from several sources, land donated by the Federal Government, and local funds were all a part of the mix. Future expenditures are also outlined.

Research Review: Impact of Physical Environment on Academic Achievement of High School Youth

Vol 21, Num 01
Jan-Feb 1983, Pg. 21-23

Bettye B. Burkhalter
Burkhalter reports on research involving high school students who were immersed in a high-tech vocational program at the Alabama Space and Rocket Center and students who participated in traditional career exploration programs at their respective vocational centers. Significantly greater growth in career awareness was reported for the youths in the experimental environment setting than those in the traditional setting.

Accomodating Special Populations: Recreational Facilities and Equipment for Disabled Individuals

Vol 21, Num 01
Jan-Feb 1983, Pg. 24-26

Kenneth A. Penman
Penman discusses the current trend to provide equal access to recreational facilities for the handicapped and then goes on to comment on the ways recreational facilities can be modified to meet the needs of the handicapped. He discusses modifications for the blind, physically handicapped, and mentally handicapped. He notes a number of pieces of equipment which a planner can incorporate into facilities designed to serve this wider population.

Futurism as a Tool in Educational Planning

Vol 21, Num 02
Mar-Apr 1983, Pg. 04-06

Glen I. Earthman
Earthman discusses what futurism is, by whom it is practiced, and the different subjects futurists focus on. He observes that the projection of school populations is related to the futurists work, but generally stops short of the time frame generally associated with true futurism and also generates a set of finite numbers whereas futurism provides a set of alternatives. Education should, however, participate in genuine futurism as a tool to better manage the future of educational systems. He concludes that there will need to be some catalyst which drives education to devote resources to studies of this sort even though those isolated efforts which have been undertaken have shown promising results.

Strategic Planning - Charting the Future

Vol 21, Num 02
Mar-Apr 1983, Pg. 07-09

Glenn W. Hoffman, Lester W. Hunt and Lind Buchser
Hoffman, Hunt and Buchser chronicle the strategic planning process undertaken by the Santa Clara County Office of Education in San Jose, California. They identify the steps necessary for the process and provide examples of some of the points of consideration. They established mission statements, performed environmental analysis and market analysis, and developed objectives, budgets and evaluation plans. They noted emerging trends such as: increased requests for technical assistance; improving financial support for education; conflicting demands for limited funds; improved political and corporate support; technology will increasingly impact education; employee labor organizations will seek more involvement in decision making; and a new consciousness is emerging relative to life quality. The strategic planning process will permit the COE to develop strategies to achieve goals, and, in short, actively direct its future.

2001: University Facility Planning Problems — A Forecast

Vol 21, Num 02
Mar-Apr 1983, Pg. 09-10

William Griffith
Griffith looks to the future and addresses his view of some of the challenges which may be faced in the next century by higher education facility planners. 1. The college student of 2000 will be older, more mobile and and will more likely be an employed part-time student. This will require changes in facilities to provide service for more "bodies" on campus and more need for parking, etc. 2. Deferred maintenance will catch up with many institutions as buildings built in the 1960's and 1970's mature and funds are not available for their care. 3. Data processing and information processing equipment will be used by all students and all offices. 4. Facility financing, whether for new construction or renovation, will be difficult and alternative means will have to be sought.

Managing Facilities Creatively or How to Increase the Educational Yield of Your Community's Investment in Its School Buildings

Vol 21, Num 02
Mar-Apr 1983, Pg. 10-12

Stanton Leggett
Leggett observes that there are two kinds of future—one very optimistic, the other very much like today with the same kind of people producing the same find of problems. Change, if it comes, comes slowly. Therefore, he makes the case that everything possible should be done to optimize the present surroundings, improve teaching stations by upgrading supplies and equipment, and by decorating. Reward effective teachers with better materials with which to teach. Provide aides for record keeping and to help teacher manage instruction. Provide space for volunteers. Provide a good workroom and storage space. Don't forget the custodial staff. In general, increase the quality of the environment; the effort will pay dividends in the educational programs.

Accommodating Special Populations: ATBCB Regulations Finalized

Vol 21, Num 02
Mar-Apr 1983, Pg. 13

Ken Brooks
Brooks notes that the final regulation of the Architectural and Transportation Barriers Compliance Board has been just released and observes that it will have little impact because it follows the ANSI standards.

Practical Ideas to Promote and Maintain an Effective Energy Conservation Program in Your Institution

Vol 21, Num 02
Mar-Apr 1983, Pg. 13-15

Joe Metro
Metro recites the experiences of instituting and maintaining an energy conservation program at Oberlin College, Oberlin, Ohio. He reports significant cost avoidance over an approximate three year period of time. Temperature standards were established and maintained at 68 + - 2 for heating and 78 for cooling. New equipment for temperature control of spaces was purchased as the need developed. Portable equipment was utilized and non-recording devices were used. As temperature were maintained at the standards trouble spots emerged which had been formerly overcome by over heating or over cooling. Each of those instances were dealt with by one or another of engineered or simple maintenance solutions. His conclusion is that significant savings can be generated and maintained, but that constant effort is required to keep from slipping back to the same old bad habits.

Research Review — How Big: A Report on Elementary School Size

Vol 21, Num 02
Mar-Apr 1983, Pg. 16-18

Bobby E. Parker
Parker reviews the conclusions of twenty-two papers or studies by various individuals or groups which have discussed optimum elementary school size beginning in the mid 1930's through the early 1980's. He identifies the individual or group, the recommendation on size, and the educational factors studied. An in depth commentary is included concerning the conclusions of one Texas district and its evaluation of costs of operation related to size of school population. The general perception is that economically a larger school is more efficient, but that socially or psychologically smaller is better. Sizes considered ranged from 175 to 1,000 student population. One observer noted that "as the academic marginality of students increases optimum school size decreases".

Pupil Attitudes Toward New and Old Buildings

Vol 21, Num 02
Mar-Apr 1983, Pg. 18-19

Tak Cheung Chan
Chan reports on a study which compared attitudes of students housed in old structures and students housed in an old structure then moved to a new one. Conclusion: "pupils housed in a modern school building have significantly more positive attitudes toward their school than pupils housed in a much older building have toward theirs."

The Need for Coordination Between Educational Facility Planning and Urban Land Use Planning — A Case Study

Vol 21, Num 03
May-Jun 1983, Pg. 04-06

Frank Hill
Hill relates the conditions in a midwestern urban location where the city had a "sector plan" relative to a 200 acre tract within its boundaries. The county was considering expansion of a sewer plant located there, at the tri-county level a study relative to transportation and expressway linkage was active, and at the state level the Community and Economic Development Department was analyzing the economic revitalization of the entire area. None of the groups were communicating with each other, and because of rumors and uncertainty, the school district suspended planned school construction and repairs on existing buildings which led to even greater distress in an already blighted area. Conclusion: planning groups need to talk to each other.

Confessions of a Pre-Computer-Age Relic or The Omnipresent Influence of the Computer on Educational Facilities Planning

Vol 21, Num 03
May-Jun 1983, Pg. 06-09

Stanton Leggett
Leggett discusses the present and future use of computers in schools and its impact on facilities planning. He notes that computers will first impact school management, but goes on to consider a number of applications in the instructional process. Although he feels that the impact will be felt earlier in some disciplines than others, ultimately they will permeate the entire process. Unlike television which was first thought to be able to revolutionize instruction but failed to do so, computers can and will make a major impact on the learning process. Conclusion: make sure power and telephone lines are available in all spaces within the school.

Design Processes and Their Influence on the Use of Educational Facilities — The School as a Survival Center

Vol 21, Num 03
May-Jun 1983, Pg. 09-12

Margrit Kennedy
Kennedy examines the conditions facing humanity at the close of the 20th century and observes that the way we are living today has no future because our resources are finite and science has yet to develop replacements for fossil fuels. She then makes the case that planners should be planning schools which enable and encourage people to become much more self sufficient where food production is concerned and also which serve as models of conservation in day to day operation. She cites several studies which demonstrate how these efforts can be achieved. Kennedy also poses the possibility that by becoming more self sufficient the boredom and alienation so common in our socielty might be lessened and one of the roots of vandalism and destructiveness might be reduced.

Environment, Teaching and Learning in Architectural Design Education

Vol 21, Num 03
May-Jun 1983, Pg. 13-18

Mehmet N. Turyan
Turyan deals with a research project wherein projects were assigned to architectural students who were placed in conventional learning spaces and personalized learning spaces and instructed using conventional teaching and team teaching modes. A complex formula was developed to score the student's performance while functioning under one of four combinations of factors. IE: in a personalized space with conventional instruction; or a conventional space with conventional instruction; or a personalized space with team instruction; or a conventional space with team instruction. Several charts of results are displayed, but in summary students in personalized spaces, team taught scored significantly higher and at the opposite end were students conventional taught in conventional spaces. Further research should be done, but it appears that marked changes in performance can result from tailoring instruction and spaces to the student's needs.

Asbestos: A Present Hazard in Education

Vol 21, Num 03
May-Jun 1983, Pg. 18-20

L. Dayle Yeager and David Bilbo
Yeager and Bilbo state the problems associated with the use of asbestos in schools. They define what asbestos is, its primary uses as related to schools, and the negative health effects associated with the material. They note that up to 75,000 Americans die from asbestos related diseases each year and conclude that asbestos must be removed from the educational environment.

Courtyard Provides Space for New College Bookstore

Vol 21, Num 03
May-Jun 1983, Pg. 20-22

Joseph P. Ferreri and Harold D. McAninch
Ferreri and McAninch outline the circumstances which led DuPage College in Glen Ellyn, Illinois to construct a bookstore in an internal courtyard within an existing structure. The construction required some innovative solutions relative to footing construction, presented challenges in moving construction materials and equipment into the space; but solved a space problem, an energy loss problem, and gave a central location to the bookstore. The cost of the construction was $55.00 per square foot and indicates that innovative solutions do not necessarily have to be expensive ones.

School Renovation for a Profit

Vol 21, Num 03
May-Jun 1983, Pg. 22-24

Jefferey I. Bennett
Bennett discusses energy saving renovations to the exteriors of a series of Michigan schools which were constructed in the 1950's and 1960's. Relatively simple insulated panels and insulated sash were employed to significantly reduce energy loss and modernize the appearance of the buildings. Six year paybacks were calculated for the $2,600 to $3,000 invested per classroom with twenty year savings of $31,000 per classroom.

Washington Schools Learn From Value Engineering

Vol 21, Num 03
May-Jun 1983, Pg. 24-27

Michael L. Doleae and Harvey C. Childs
Doleae and Childs discuss Washington State's development of a program whereby individual districts can enter into Value Engineering processes for their capital projects where V.E. was implemented and record the cost savings and plan modifications which were implemented to achieve the savings. Illustrations define total cost of ownership (Life Cycle Costs) and where in time the greatest potential for savings occur in the life cycle of a structure. Once it's built, there is little oppportunity to alter the total cost of ownership. Those who participated in the Washington State process attest to its effectiveness.

Funding Strategies for Interior Space Alterations: The University of Maryland Experience

Vol 21, Num 03
May-Jun 1983, Pg. 27-29

Victor Evans
Evans examines the need for a constant source of interior renovation funds to deal with space modifications. At the University of Maryland College Park campus funds for that purpose have been in steady decline based upon increased needs for operating funds and the unavailability of suplementary funding. The result is that the buildings are becoming increasingly inefficient in meeting the needs of a changing school population. The University has experienced a significant shift from the traditional 18-24 age student to part-time and continuing education students. Solutions are not reached other than noting the need for stable funding for the purpose as a part of the operating budget, and the need to perform continuous and comprehensive space planning to effectively use space.

Surplus Schools and Outstanding Bond Debt

Vol 21, Num 03
May-Jun 1983, Pg. 29-31

Yale Stenzler
Stenzler notes that many districts may have to deal with the issue of disposing of surplus schools and/or school sites in the near future because of declining enrollment or population shifts. Some of these may have outstanding bond debt. A survey was prepared by the State of Maryland Public School Construction Program to determine how various states dealt with the disposition of such properties with particular attention paid to the matter of continuing debt. Fourteen questions were asked and responded to by all fifty states. The results indicated a significant amount of autonomy among local school districts concerning disposition of surplus property and few restraints connected with continuing debt.

Productivity In Buildings

Vol 21, Num 03
May-Jun 1983, Pg. 31-33

Oliver D. Filley
Filley notes that the average building outlives those responsible for its existence, and buildings tend to continue as is without serious evaluation of their productivity. He outlines seven steps a building owner can take to obtain the most productivity or to make decisions to tear down and rebuild or to sell and rent other space. "Increasing productivity in buildings is not a static goal, but rather an evolutionary process. It requires a knowledge of existing uses, objective evaluation based upon an economic model and actions to correct defects. Sometimes these actions are physical improvement, sometimes a change of space and sometimes training people to utilize or maintain the space more effectively."

Research Review - Lights, Windows, Color: Elements of the School Environment

Vol 21, Num 03
May-Jun 1983, Pg. 33-35

Warren E. Hathaway
Hathaway cites studies done by a number of people indicating that lights and color have a significant impact on the behavior of people in general and on students in particular. Less conclusive is the presence of or absence of windows. His conclusions are that choices of tubes of lighting and color should be governed by the needs of the occupants of the space and that the effects shown by the research should be a factor in a choice of light source and colors. Hathaway concludes his article with a recommendation that because few studies have considered all three variables together, that should be done.

The Community as a Campus

Vol 21, Num 04
Jul-Aug 1983, Pg. 04-05

James H. Lytle
Lytle examines the pros and cons of the first "school-without-walls" founded in 1969 by the Philadelphia Public Schools. The school is housed on five different sites within the city and at the time of writing housed 1100 students in leased or borrowed found space. Each of the two base sites also rents or leases nearby space so that 40% of the total number of classrooms are outside the base sites. Costs of setup and operation were deemed very reasonable. Though much of the traditional school setting is not available in this plan, the schools have been identified as one of the most effective high schools in studies conducted by the U.S. Department of Education and the National Urban Coalition.

California Experiences Unique Problems in Conversion of Non-Educational Space

Vol 21, Num 04
Jul-Aug 1983, Pg. 06-07

Byron L. Kimball
Kimball chronicles the experience of Los Angeles Unified District in attempting to establish a site for a business magnet school to be located in central Los Angeles, and hopefully near the financial and business district. In short, the cost of required earthquake structural renovations made placement of the school in a standard commercial building unfeasable. The district then moved office personnel into commercial space freeing up space in an earthquake safe structure for the school. A fast track contract was entered into and problems were caused by the very short time schedule allocated for the project, namely excessive change orders.

Revival of the Arts in the City

Vol 21, Num 04
Jul-Aug 1983, Pg. 07-10

Curtis E. Lantz
Lantz describes the acquisition, planning and conversion of an old and deteriorating hotel in the city of Baltimore into a school of the arts. The once elegant structure was purchased through the aggressive actions of the mayor of Baltimore and the architectural firm of James Grieves was authorized to plan a fast track renovation which had to begin construction within 90 days to qualify for grant monies. The project resulted in a 92,000 square foot school at a total cost of $42.71 per square foot when new construction projects were in excess of $70.00 per square foot.

Community Adaptive Reuse Through Private Enterprise

Vol 21, Num 04
Jul-Aug 1983, Pg. 11-13

Karl w. Grube and Mahmood Ahmad Kuri
Grube and Kuri discuss the conversion of Angling Road School, Southfield, Michigan to a Continental Cablevision facility including studio. They document the factors which are reducing school enrollment in some major cities including lower birth rate and out migration. They also discuss the financial difficulties districts face. They offer six ingredients for a successful conversion process and seven guidelines for the administration of surplus facilities.

Determining the Accuracy of Enrollment Projections for School Districts

Vol 21, Num 04
Jul-Aug 1983, Pg. 14-16

Edward P. Caffarella
Caffarella discusses the use of a modified cohort survival projection technique in forcasting enrollment projections. He discusses the formula and the accuracy attained in projecting enrollments in communities throughout the state of Maine when compared with actual enrollments. The conclusion is that the method is very accurate for communities where the student population is over 600, but even in those under 600, it's acceptable.

Behavior modification: A Potential Means of Implementing Energy Policy in Facilities

Vol 21, Num 04
Jul-Aug 1983, Pg. 16-18

David R. Epperson
Epperson observes that the best energy conservation designs in both renovations and new construction can be thwarted if the occupants are not convinced that energy conservation is a necessary activity. He notes that we have pampered building occupants to the point that any temperature variation from a very narrow range prompts a hue and cry. Gaining acceptance for new temperature standards should begin before the building is occupied or in the case of renovation, before the work is done. "Utilization of valid behavioral techniques for assessing and shaping user reactions to facilities has the potential to provide better information profiles for the designer and planner."

Use of Consultants by Design Professionals

Vol 21, Num 04
Jul-Aug 1983, Pg. 18

G. Kent Stewart
Stewart deals with three questions: 1. Is the consultant's fee included in the design professional's fee? 2. Who is responsible for acts or omissions of the consultant? 3. Can the design professional retain consultants to perform duties owed the client? His conclusion is generally the fee is paid by the design professional unless otherwise agreed upon. The consultant is responsible for acts or omissions unless he is in the direct employ of the design professional and the design professional can employ consultants to help fulfill the obligations of his contract.

Educational Facility Construction - A Role for the Owner

Vol 21, Num 05
Sep-Oct 1983, Pg. 04-06

John D. L'Hote
L'Hote examines the normal sequence of activities where owner representation in the building process frequently ends at the time a contract is let and construction begins. He then discusses fast track design-build and construction management methodologies. Finally he makes a case for continued involvement of district employees through the entire course of construction. He identifies a need for a single owner's representative to coordinate the activities of district staff and to act as spokesperson for the owner. Although there is no guarantee that cost extras will not still occur or that quality will improve, the proposed changes may improve communication between the parties to the extent that delays are minimized and progress assisted. Responsibility cannot be delegated, it can only be shared.

Construction Contract Changes

Vol 21, Num 05
Sep-Oct 1983, Pg. 06-08

David R. Epperson
Epperson discusses construction contract change orders, the five categories of change orders, and the impact change orders can have on a construction project. He itemizes the elements of a change order relative to legal requirements and makes the observation that in general work done by change order does cost more than it would had it been included in the original contract. Change orders are, however, an essential part of contract work and should be carefully managed. The appropriate use and execution of the change order influences whether or not modifications will be accomplished in an orderly manner or just be another point of contention in a litigation proceeding.

School Construction Scheduling

Vol 21, Num 05
Sep-Oct 1983, Pg. 08-09

J. B. Delaney
Delaney discusses school construction budgeting, planning, design and construction schedules and draws the conclusion that school planning cycles do not mesh well with the time when a new school is needed. That is the reason why it is often inferred that construction of a school is "late" for September occupancy. Delaney observes that late September or early October is the time enrollment figures are available and that it requires thirty months from the time the need is known until a school can be completed in late March. Also discussed is the optimum time to let a bid related to seasonal factors in the construction industry. Closer attention needs to be paid to the time required in the preliminary processes.

Alternative Contractual Relationships For Construction of Facilities

Vol 21, Num 05
Sep-Oct 1983, Pg. 10-12

Glen Haun and Glen Earthman
Haun and Earthman evaluate the pros and cons of the Facilities Planning and Management option for school construction. They note that F.P.M. can have the potential to: coordinate diverse construction functions on major projects; reduce the total time for design and constuction; reduce construction costs; and to increase project flexibility. Optimally the F.P.M. firm would be on board at the outset of planning, but perhaps the greatest benefit the owner will receive will be the supervision of the project during construction. Consideration of each state's laws must be undertaken to insure the applicability of this method in each location.

Research Review: Noise, Children and Learning

Vol 21, Num 05
Sep-Oct 1983, Pg. 12-13

Barney L. Kyzar
Kyzar conducted sound level testing in the classrooms in twenty-one schools over a nineteen year period. Conclusion: 65 db (A Scale) is an acceptable level of background noise and 75 db (A Scale) is not. At the higher level there was significant impact on both teacher and student participation. Noise factors should be considered in planning schools and school staff should guard the school site against proposals which might create noise problems for students and teachers.

Funding for Fienberg Fisher Community Park and Pembroke Pines Human Resources Center

Vol 21, Num 06
Nov-Dec 1983, Pg. 04-05

Vivian Salaga
Salaga describes the development of a community park which tied together an elementary school and a community center which had formerly been divided by a street. In the final analysis the City of Miami Beach, the School District and a Jewish Community Center cooperated to request a grant for the development of newly available space which resulted from a street closure and for renovation of existing facilities. The newly developed space meets both community and School District needs and utilizes previously under utilitized space. Also reported is the development of a planning committee and its development of a planning committee and its resulting plan to provide a similar project at Pembroke Pines in Broward County, Florida.

Guide to Alternatives for Financing School Buildings

Vol 21, Num 06
Nov-Dec 1983, Pg. 07-08

Ben E. Graves
Graves discusses the need for funding for new schools and renovation of older facilities. He comments of a guide prepared by E.F.L. which addresses eight methods of financing school buildings noting that laws vary from state to state and that because of that all may not be applicable in all states. The methods discussed are Pay-As-You-Go, State Aid, Federal Aid, Reducing Site Costs, Shared Facilities, Non-Tax Revenue, Bond Issues and Leasing. No information is given as to the availability of the guide.

Financing the Future

Vol 21, Num 06
Nov-Dec 1983, Pg. 09-10

Joel D. Sherman
Sherman discusses changing demographics and the impact they will have where financing future school construction is concerned. He observes that nationally the population is growing older and thus requiring services that go with an aging populace. There will be greater competition for the same number of tax dollars. He notes the shifts which are occurring in areas least able to fund the increase, areas of the country which have traditionally relied heavily on federal assistance or simply provided a lower level of per student support. The rest of this century is likely to be a period of great challenge in the financing of schools.

The Contractor as a Participant In Financing Capital Construction

Vol 21, Num 06
Nov-Dec 1983, Pg. 11-13

Patrick L. Herron
Herron relates the experience of Greenville County School District (SC) wherein contractors were asked to carry the costs for new construction of an elementary school for up to one year. The effort was successful with the District paying an approximate 11% premium which was thought to be roughly equal to anticipated cost escalation. The advantage was gaining the school one year earlier and thus releaving student over-crowding. In conclusion it may be a method other districts could consider where cash flow problems exist and needs are critical.

The Pros and Cons of Contractor Financed Approach To School Construction

Vol 21, Num 06
Nov-Dec 1983, Pg. 13

T.C. Chan
Chan critiques the Greenville project by reducing the approach to its basic issues. (See The Contractor as a Participant in Financing Capital Construction, CEFP Journal Volume 21, Number 6) Cash flow considerations are evaluated, carefully defined contract conditions, additional costs, potential gain and potential loss are all a part of the package.

Creative Capital Financing: Lease Purchase and Leasing Air Space (The Florida Approach)

Vol 21, Num 06
Nov-Dec 1983, Pg. 14-15

Franklin L. Hill
Hill discusses lease purchase financing of capital construction as introduced in Florida and cites six benefits as follows: no public referendum, no increase in local tax, tax exempt bonds, design build construction, and depreciation. Also discussed is the option of a district leasing air space to assist in mitigating excessive land costs in major metropolitan locations. Lease purchase financing and the lease and sale of air space have tremendous applicability for the public sector financing of capital construction. It is suggested that qualified professional services be solicited to protect the interests of the local school board or municipality considering these approaches to capital financing.

Alberta's Funding Program for School Construction

Vol 21, Num 06
Nov-Dec 1983, Pg. 15-17

John W. Kulba and Warren E. Hathaway
Kulba and Hathaway report that Alberta had had a generous support system which had encouraged autonomous school districts to over-build. In order to encourage better planning, a capital funding formula was introduced as follows: P=ExUxAxS. P is provincial support, E is equity factor, U is utilization factor, A is approved area factor, and S is support factor. Each factor is discussed and values given. The plan has been in use five years ('78-'83) and several changes have transpired with districts improving planning skills.

Research Review: Early Learning Center

Vol 21, Num 06
Nov-Dec 1983, Pg. 18-19

Aase Eriksen
See completed research CEFP Journal, Volume 22, Number 2, Mar./Apr. 1984.

Implementing a Funding Formula for Repair and Rehabilitation Dollars for State Supported Institutions

Vol 22, Num 01
Jan-Feb 1984, Pg. 04-05

Donald E. Weaver & Doreen R. Rice
Weaver and Rice discuss their experiences in implementing a funding formula at Indiana University campuses which was developed by Douglas R. Sherman and William A. Dergis at the University of Michigan. (See A Funding Model for Building Renewal, Sherman and Dergis, CEFP Journal, Jan./Feb. 1984) Weaver and Rice note some short comings in the original formula and explain modifications made to the formula when implemented in Indiana. The formula does generate sufficient funds to meet on going remodeling needs for campuses, but should be enlarged to encompass the problems of changing function and infrastructure maintenance. It does provide a fair distribution basis.

A Funding Model for Building Renewal

Vol 22, Num 01
Jan-Feb 1984, Pg. 05-08

Douglas R. Sherman and William A. Dergis
Sherman and Dergis propose a model for funding building renewal which takes into consideration five basic premises. The formula should be based upon construction costs, reflect current year building value, recognize that renewal should cost less than new construction, recognize that older buildings require more funds than newer buildings, and reflect the effects of building remodel projects already done. The resulting formula is expressed as: annual appropriation= 2/3 BV x BA/1275. BV represents Building Value and BA represents Building Age. Included are discussions of how to incorporate past partial renovations into the formula. The formula is based upon premises believed to be valid anywhere and the information needed to apply the formula should be readily available in physical plant records.

Funding of Facility Repairs and Renovation

Vol 22, Num 01
Jan-Feb 1984, Pg. 09-11

Harvey H. Kaiser
Kaiser discusses two methods for determining appropriate funding for annual levels of building repair and renovation, both of which use building component life cycle concepts. The first system breaks each structure into fifteen components and each component is evaluated as to % of construction cost, average years before replacement, and replacement index as a % per year of total value. The second system used an evaluation of one hundred nineteen components to arrive at a 1.2% of total replacement value annual expenditure for maintenance of a given structure. Factors were added or subtracted to account for age of structure. Formulas must be used cautiously as a method of determining budget levels because of differing interpretations of maintenance versus operations and renovations. Formulas do, however, allocate percentages well.

Before the Roof Caves In: A Predictive Model for Physical Plant Renewal

Vol 22, Num 01
Jan-Feb 1984, Pg. 11-15

Frederick M. Biedenweg and Robert E. Hutson
Biedenweg and Hutson detail the conceptualization and development of a predictive model to facilitate budgeting for plant renewal. The model considers facility subsystems, the type of building they are in, subsystem life cycles, subsystem cost and date of construction. Fifteen subsystems were identified and twelve were assigned life expectancies at pessimistic, likely, and optimistic levels. It was later determined that actual life cycles lie closer to the likely and optimistic than toward the likely and pessimistic range. The resulting forecast for Stanford University buildings showed a cyclic expenditure requirement based upon year of construction. The model provides the basics for a program which identifies building needs in a credible manner.

Light and Color Research Continues in Arkansas

Vol 22, Num 01
Jan-Feb 1984, Pg. 16

Diane Sydoriak
Are student achievement, blood pressure, and height and weight gain influenced by the choice of color and source of artificial light in the classroom?, asks Sydoriak. No conclusion is reached in the article; research continues and was to be reported out in 1984.

School Architecture: New Activities Dictate New Designs

Vol 22, Num 02
Mar-Apr 1984, Pg. 04-05

Robert Hill
Beginning with the little red school house educational facilities have reflected the activities and age levels of the children who attend them. Playground equipment moved indoors into what we call a gym, and new playground equipment was developed for outdoors. Added educational and non-educational needs have been met through the years. In recent years it has been necessary to deal with computerization and Title IX. Advice for the future: roll with the punches, education is an everchanging phenomenon with trends which come and go. There's no turning back to the little red school house.

Planning and Site Selection for Public Places

Vol 22, Num 02
Mar-Apr 1984, Pg. 06-08

C. Kenneth Tanner
Tanner begins with the observation that placement of public facilities is a matter of great public interest and that the best interest of the public is often not served. He then offers a mathematical model which permits an evaluator to consider distance between population centers and relative density of those centers to establish an optimum location for the facility. "The contributions of this methodology to the area of decision making may depend on the persistence of the planner and his/her willingness to work within the unrational world of the policy maker."

Performance Based Evaluation of Educational Facilities

Vol 22, Num 02
Mar-Apr 1984, Pg. 08-12

John C. Hill
After a historic look at school facility evaluation methods, Hill proposes a performance-based evaluation achieved through a systems approach. He then provides examples of data gathering and scoring using a system/subsystem methodology. Four subsystems are identified as follows: 1. The space, equipment and other facilities for serving the desired instructional program, 2. The school site, 3. The physical structure or building, and, 4. The environment. Each subsystem has from ten to eighteen elements which are scored as, 4 superior, 3 adequate, 2 marginal, 1 inadequate, or 0 missing. The resulting scores can be graphically displayed to provide a readily understood method of prioritization.

Ten Years of Effective Campus Development Planning

Vol 22, Num 02
Mar-Apr 1984, Pg. 12-13

Edward A. Burnap, Jr.
Burnap discusses the master planning efforts undertaken by the Board of Trustees of the State Universities and Colleges of Maryland encompassing six institutions. He deals with three issues. 1. The initial planning process and the six types of information gathered. 2. How plans were kept current citing four primary reasons that have maintained currency. 3. The validity of master planning now for the future with five reasons a facilities plan is important for the future.

The Right Place for Growing Up

Vol 22, Num 02
Mar-Apr 1984, Pg. 13-18

Aase Eriksen
One hundred fifty years of study written in six languages suggest that parents should feel good about the experiences their children recieve in child care centers provided the center addresses the development of "the whole child", according to Eriksen. The diverse experiences experienced by the child in such a setting is better than the limeted contact within the home. The ideal is a cooperative effort between home and child care facility. Eriksen discusses work done by Tolstoy, Steiner, Montessori, Piaget and others and lists nine general principles which should apply in an effective early childhood education program. An example of an architectural design for an effective early childhood center is included.

Data Base Approach to Facility Condition Management

Vol 22, Num 02
Mar-Apr 1984, Pg. 18-22

Roderick A. Carr and Andre J. Pack
Carr and Pack note the reawakening which has occurred concerning the importance of managing the maintenance function. They quote a figure indicating that the oldest 7% of facilities can account for 60% of annual maintenance figures. Deferred activities must be accomplished at a later time at higher material and labor costs. They then deal with a maintenance "system", a facility management system flow chart, gathering information, information input, data base design, data base schematic presentation and cost information. Several samples of reporting are provided to illustrate format prioritization and flexibility.

Expandable-Contractible Core Schools

Vol 22, Num 02
Mar-Apr 1984, Pg. 22-24

Hoang D. Lee
Alberta, Canada has experienced significant population in migration and mobility in the population making it difficult to predict long term enrollment trends, according to Lee. The solution is an expandable-contractible concept where the core school provides all the basic services necessary for operation of an elementary school and which, in the event of a complete departure of students, can serve as a community center. Floor plan examples housing 300-500 students, 225-375 students, 175-325 students and 25-175 students are provided. In all cases the core houses the smaller number of students and portable classrooms provide the difference to the maximum enrollment.

The Unit Building Costs for Public and Private Primary Schools in Southwest Province of Cameroon

Vol 22, Num 02
Mar-Apr 1984, Pg. 25

Fritz N. Mbua
Mbua analyzes costs of construction for public schools as opposed to private schools and determines that public schools cost twice as much to build as private schools and that the larger cost is not reflected in the quality of education recieved in the more expensive facility. In addition, the students attending the public school receive a free education while the private schools charge a fee.

Study of Selected Variables of School Construction Costs

Vol 22, Num 02
Mar-Apr 1984, Pg. 26

Clary Williams
Williams evaluated costs for building one hundred twenty-eight facilities in West Virginia between 1974 and 1982. Analyses utilized the multiple regression procedure to examine the relationship of the variables to per pupil construction costs. An inflation index was used to adjust costs. The results indicated a significant relationship between per pupil construction costs and three financial variables: 1. Assessed valuation of the district, 2. The amount of local effort put into facility construction, and 3. The amount of state funds utilized in the project. The study indicated a need for standardization of assessed values, equalization of local fiscal effort and pointed out a need for additional state money for capital outlay.

Where Will the Teachers Teach After the Buildings Fall Down

Vol 22, Num 03
May-Jun 1984, Pg. 04

David S. Honeyman
Honeyman recognizes the fact that vast sums of money need to be spent on renovation, repair, and replacement of educational facilities. Teachers and unions must realize that a solid capital fund position does not imply that school executives do not care about teacher's salaries.

Capital Resources Management in Higher Education

Vol 22, Num 03
May-Jun 1984, Pg. 04-06

William J. Griffith
Capital resources management is essential and neglected in higher education, says Griffith. Most administrators are not aware of the full costs of facility ownership and generally focus on facility management rather than capital management. Griffith provides a list of seven functions of resource management as follows: planning, budgeting, allocating, operating, evaluating, disposing and reporting. He also provides a process outline for management which includes: 1) Review of all institutional programs; 2) Focus on capital resources for program effectiveness; 3) Evaluate capital resources for program effectiveness; 4) Take corrective action; 5) Recycle the process. The goal is to provide effective and efficient spaces for the instructional purpose.

Recruiting, Selecting and Developing Executive Personnel in Capital Resource Management

Vol 22, Num 03
May-Jun 1984, Pg. 07-08

Ned A. Nusbaum
Nusbaum makes a case for a careful selection process for selecting a capital resource manager by carefully establishing criteria, making the process objective, and rejecting the practice of moving an unsuccessful principal to the position. He provides a list of six "do's" and six "don'ts". If districts fail to place and train qualified personnel in such management positions, districts will face loss and non-public vendors will be quick to suggest that similar services can be provided piecemeal for less cost.

The Capital Resources Maintenance Audit

Vol 22, Num 03
May-Jun 1984, Pg. 09-11

G. Ken Stewart
Stewart maintains that it's essential to perform a capital resources maintenance audit to plan long range capital improvements. To properly organize data, he offers an eleven point checklist and amplifies the requirements under each of the eleven points. He deals with: 1) Footings, foundations and basements; 2) Wall system—exterior and interior; 3) Roof, flashing and soffit; 4) Fenestration systems—doors and windows; 5) Floors and ceilings; 6) Mechanical system, plumbing and H.V.A.C.; 7) Electrical and electronics systems; 8) Handicapped access; 9) Utilities, energy and insulation; 10) Equipment and furnishings; and, 11) Grounds, drives, parking and play areas. Once the audit is complete, Stewart maintains prioritization and programming are much easier than commonly supposed.

Planning for Cost Effectiveness

Vol 22, Num 03
May-Jun 1984, Pg. 11-12

William D. Schlaebitz
Schlaebitz makes a case for life cycle cost analysis noting that we intuitively perform that function when we choose a brick exterior over wood siding. He provides an example of the calculations used to evaluate two differing air conditioning systems, and touches on other elements of buildings which are apprpriate for similar evaluations. His conclusion is that large savings are possible in maintenance and operating costs by using the life cycle analysis approach for every project.

Planned Maintenance Programs — A Memorandum to Facility Officers

Vol 22, Num 03
May-Jun 1984, Pg. 13-14

Thomas E. Glass
Glass observes the persistant problem of inadequate funding for maintenance programs and suggests obtaining a commitment from the board, administration, staff and community through a public relations program designed to make all aware of the needs both for health and safety and preservation of capital resources. The public relations program should be based on facts gathered from an assessment of facilities and a plan generated from those facts. He also recommends a community/staff advisory group to facilitate communication with the community. Effective maintenance programs are good business for a school district and administration must face pressure to provide for the health and safety of students.

Organizing Efficient Capital Resource Management for Community Colleges Through Joint Use

Vol 22, Num 03
May-Jun 1984, Pg. 14-15

Harold Deselms
Deselms proposes that the college, school district and community agencies in any area can best serve the total community by carefully planning all facilities to be joint use. He recognizes this takes careful scheduling and may involve "turf concerns"; however, it's in the best interest of the taxpayer to not duplicate spaces to provide similar servces. An additional benefit to a carefully planned joint use program is better service to the public through more localized points of delivery.

Private College Capital Resource Management During Fiscal Stress

Vol 22, Num 03
May-Jun 1984, Pg. 16-18

Reed M. Stewart
Stewart guided Wesley College from a serious financial condition to solvency in less than a year. He shares some insights in eight rules: 1. Involve or Re-involve the Board of Trustees; 2. Examine the past and regardless of apparent immunity from scrutiny, evaluate it carefully and act on the findings; 3. Open your office and let the internal community speak; 4. In an open door setting, the listener must never slay the messenger, no matter how bad the news; 5. Show up for conversation once daily where least expected; 6. Never accept verbal reports from the business officer, require computer sheets and ledger books be placed before you; 7. Install an energy control system; and, 8. Realize that capital resource management transcends facilities alone to embrace management at its broadest context. Maintenance and operations, facilities and energy problems are inevitably the result of larger administrative problems born of benign neglect or management ineptitude.

Facing the Challenge to Preserve and Restore College Buildings

Vol 22, Num 03
May-Jun 1984, Pg. 18-20

Richard Wagner
Wagner notes the current trend to preserve and renew facilities rather than destroying and replacing them. He observes that this trend received a boost during the bicentennial celebration and that it's a worthwhile effort which helps us retain our ties with the past while we plan for the future. Although in some cases preservation can be more expensive than new construction, generally it's good stewardship and financially responsible to adapt older structures to new uses.

Monitoring and Conserving Energy Usage in Existing Educational Facilities

Vol 22, Num 03
May-Jun 1984, Pg. 21-22

Ted Clark
Clark recites the experiences of the Topeka, Kansas Public Schools development of an energy management system. He states the capabilities of the inhouse designed computer program and notes the difficulties encountered in gaining building level cooperation in implementing conservation measures. Also noted are those instances when conservation measures were taken too far and interfered with the educational process.

Disposal of Board Owned Real Property Requires Legal Help

Vol 22, Num 03
May-Jun 1984, Pg. 22

G. Kent Stewart
Stewart cites three instances where attempts to dispose of Board owned real property came into question because of reversion clauses where land was donated with the stipulation that it remain in use as educational property or where original wording of deeds came into question. The conclusion is: legal assistance is needed in matters of property disposition.

What You Don't See Is What You Get

Vol 22, Num 04
Jul-Aug 1984, Pg. 04-06

John R. Adams
Computerization of facility management activities has both benefits and drawbacks, according to Adams. There is a double risk in facility management because few computer vendors understand facility needs and fewer facility managers understand computers. To properly employ computers, managers must first systematize then computerize. Because computerization requires conscious analysis of organization functions it leads to useful questioning of how those functions can be streamlined or improved and therein may be the most valuable benefit.

Available Computer Technologies

Vol 22, Num 04
Jul-Aug 1984, Pg. 07-11

H. Lee Hales, CMC
Hales discusses three basic computer technologies available to aid the facilities manager. 1) DSS (or decision support systems), 2) CAD (computer-aided design), and, 3) MIS (management information systems). Under DSS he notes space projections, clustering, stacking block layout and cost justification as typical uses. CAD assists in documentation of existing facilities, area measurements, planning and designing, graphic inventories and visualization. MIS provides help with space inventories, equipment inventories, lease management, project management and capital budgeting. There is also a discussion of the various types of hardware available for use along with software packages. Lowering costs will make systems available to smaller organizations. The need will remain to carefully choose the systems and hardware suited to organizational needs.

Selecting a Space Inventory System: A Case for Flexibility

Vol 22, Num 04
Jul-Aug 1984, Pg. 12-13

Larry G. Shilling
A case study of the facility problems faced by Columbia University and is decision to enter into an agreement with M.I.T. to utilize a program developed by them in the late 1960's. INSITE II is a facilities management program which can manipulate fifteen data elements including room number, flow data, organizational assignments room use, groups and activities assigned to rooms, rank and number of occupants, floor coverings and paint data information. The system met Columbia's needs and is user friendly. Flexibility was also noted as an attribute.

Computerizing Financial Management for a Physical Plant

Vol 22, Num 04
Jul-Aug 1984, Pg. 14-15

William C. Neland
Neland chronicles the Portland State University's transition from one of eight institutions tied to a central computing system to a de-centralized entity with its own computing capability for facilities related processing. Information formerly batch processed at the central location is now handled by the on site computer and the information needed at the central location is transmitted to it. Several program elements were developed by inhouse staff including an accounting/inventory/ purchasing system. In the case of Portland State the decision to develop programs internally was the right one.

Implementing a Five Year Capital Improvement Plan

Vol 22, Num 04
Jul-Aug 1984, Pg. 15-16

Bobby D. Martin
A data base of all school facilities in the state of Oklahoma was the key to developing the capital improvement master plan mandated by the Legislature. Each school district will be given data about its facilities from the recently completed data about its facilities from the recently completed data base and asked to develop a capital improvement plan. These plans will be used in conjunction with the facilities data base to allocate capital improvement funds to provide all students sound, well-maintained, spacious, adaptable facilities. Guidance was provided to local superintendents for evaluation of their facilities based upon thirteen criteria.

Automating Preventive Maintenance

Vol 22, Num 04
Jul-Aug 1984, Pg. 16-17

Michael J. Oshier
Oshier records the process the State University of New York at Brockport used to computerize the school's preventive maintenance program. Several options were evaluated and rejected prior to settling on an off-the-shelf program operating on a PC. Operator training is discussed and the need for user friendly products and strong software vendor support is also noted.

History of a Building Automation System

Vol 22, Num 04
Jul-Aug 1984, Pg. 17-18

Anthony A. Martin, PE
Fairfax County, Virginia Public Schools constructed an earthsheltered, solar equipped school which required a complex computer system to operate its heating and cooling systems. Operating that school led staff to realize the benefits which could be gained if a similar system was applied to existing facilities. The resulting system features stand-alone DDC user programmable units in each school, dedicated phoneline communication, and mini-computer and peripherals in the central office. The system is very successful.

Deferred Maintenance

Vol 22, Num 04
Jul-Aug 1984, Pg. 18-20

Richard A. DeLong
The University of Michigan at Ann Arbor computerized a system to identify, describe, manage, prioritize, and date deferred maintenance activities.

Assessing Facility Needs and Developing a Management Program

Vol 22, Num 05
Nov-Dec 1984, Pg. 04-09

Ben E. Graves, HAIA
Graves discusses the difficulties in gathering pertinent information related to facility assessment and also comments on the temptation to gather too much information now that computerized analysis is available. He then provides an outline and framework within which meaningful data gathering can take place. Subject matter ranges from demographic and future trends to designing a system of gathering and processing information. The conclusion drawn is that "good management decisions depend on having the right information" and, that, too often, we are good at administering our facilities but poor at managing them.

Computer Implementation Strategies and Processes

Vol 22, Num 05
Nov-Dec 1984, Pg. 10-15

Kreon L. Cyros
Cyros addresses implementation of a facilities management system and observes that organizations generally have three resources available to them: dollars, people and facilities; and that of the three, the least attention is given to the latter. Three actions must preceed development of the system: 1. Establishing priorities; 2. Determining computer capability available; and 3. Developing budgets for implementation and on-going costs. A space planning and management model cannot be implemented without first knowing what facilities there are and how they are used, inventory and utilization. Nine steps were outlined to obtain that information. Data collection, storage techniques, physical audits, scaled floor plans, and the necessity of departmental cooperation are discussed. There is immense value in fully utilizing the current space available to any orgranization, and organizations cannot justify additional space until they know what they have and how it's being used.

Property Control Through Bar Coding (Case Study)

Vol 22, Num 05
Sep-Oct 1984, Pg. 16-17

Gerben J. Kingma
Kingma relates the experience of one client who had a sizable inventory problem involving over 50,000 items of equipment. The implementation and continued use of the bar coding system saved 80% of the cost of the former manual system with few disadvantages. The bar coding system is able to automatically locate each item on inventory to a specific office or area and generate a variety of reports as to location value, etc.

Maintaining a Computerized Building File (Case Study)

Vol 22, Num 05
Sep-Oct 1984, Pg. 17-18

Paul D. Borowski
Borowski discusses the implementation of a computerized system which maintains space information by size, type and occupancy, allocates utility costs on a weighted basis, allocates use allowances based on shell and fixed quipment, allocates operation and maintenance costs, models different methods of allocating and computing overhead costs, and provides a movable equipment inventory. The system provides simplified and prompt reporting capability for institutions which must allocate costs for grant or billing purposes.

CAD Graphics in Facilities Planning

Vol 22, Num 05
Sep-Oct 1984, Pg. 18-20

Linda M. Collier
Planning and managing space is a continuous and dynamic process, according to Collier. Over time even stable organizations lose track of the placement of groups. The tedious process of rearranging assignments and updating floor plans inhibits good managment. Computer based design allows managers to make better use of space. The system described utilizes a three category design including: 1. Overall building plan; 2. Space accounting plan; and, 3. Individual group or department layout.

Computer-Analyzed Custodial Operations

Vol 22, Num 05
Sep-Oct 1984, Pg. 21-22

Dave Ross
Ross addresses the use of a computerized system of balancing employee work loads, allocating supplies and manpower, and measuring productivity in housekeeping activities. The system, along with retraining employees, achieved a 25% savings in custodial costs. Evaluation involved use of a hand held computer and a bar code identification system for each area.

Adapting Scheduling Programs for Educational Specifications

Vol 22, Num 05
Sep-Oct 1984, Pg. 22-23

Thomas E. Glass
A hidden resource for generation of educational specifications data is contained in the computerized master scheduling programs found in many school districts around the country, according to Glass. Historic patterns of enrollment can be identified and projected by factoring higher enrollment figures or course offerings into the analysis.

The Electronic Spreadsheet: A Facilities Planning Tool

Vol 22, Num 05
Sep-Oct 1984, Pg. 23-26

C. W. McGuffey and Ray Argo
McGuffey and Argo discuss the advantages and disadvantages of using spreadsheet programs as facilities planning tools. Advantages include speed of analysis, ease of imposition of variables, and the ability to instantly re-calculate. Low cost of equipment and programs is also noted. Disadvantages include fear of loss of material through operator error, malfunction of equipment and computer phobia. Two examples: 1. Cohort survival method of enrollment forecasting; and, 2. Modified least-squares method of enrollment forecasting are offered for comparison. Conclusion: electronic spreadsheets are an invaluable tool for the planner.

Facility Planner and Architect as the Planning and Design Team: Problems and Issues

Vol 22, Num 06
Nov-Dec 1984, Pg. 04-07

Robert L. Hedley and John C. Brokaw
Hedley and Brokaw discuss the need for a planning team at the very beginning of the planning process, stress good communication within the planning team and out into the community, and provide a checklist of items that should be covered in the architect's agreement with the district. They also note the responsibilities of the design advisory committee. Four other items are discussed: the makeup of a quality educational specification; current engineering guide specification; a realistic construction budget; and, a detailed construction schedule. The need to provide more than adequate information to the architect is addressed. Only when there is abundant exchange of information can the majority of district needs be met.

The Cost of Design Services: Problems and Issues From the Owner's View

Vol 22, Num 06
Nov-Dec 1984, Pg. 07-09

Wallace B. Cleland
Cleland dicusses the issue of fee structure for design professionals working in the educational field noting three systems: set percentage decreasing with size of project; fixed fees; and hourly rate or cost of service structures. He notes some of the pitfalls associated with each, primarily cost escalation over time, and he observes a decrease in the use of percentage based schedules. He expresses concern over moves to bid for professional services and majors on the need for a well written contract executed with a highly competent professional. Cleland notes that a good "chemistry" between owner and architect is elusive, but desired. He also observes that past years have seen many buildings erected which were poorly designed, and he espouses fair fees for quality design.

The Cost of Design Services: Problems and Issues From the Architects View

Vol 22, Num 06
Nov-Dec 1984, Pg. 10-12

Richard K. Albyn
Albyn observes that architects are providing all the traditional services along with added responsibilities. Ie. Feasibility studies, building condition analysis, financial package, agency liaison, etc. He then discusses four fee structures: percentage declining with project size; fixed fee; time and material not to exceed; and, time and material with conversion to a percentage or fixed fee. He discusses pros and cons of all four structures and favors the last. The rationale is that an owner can enter a time and material contract for the initial phase of the work—through schematics—, and, if the "chemistry" is not there, the relationship can be terminated with normal cost to the owner. He supports the "Brooks Bill" as the proper format for professional services selection procedures. He provides an excellent discussion on factors affecting the architect's costs. He proposes cost based compensation for professionals rather than percentage or lump sum fees. "You usually get what your pay for."

Questions Facility Planners Should Ask About the Future

Vol 22, Num 06
Nov-Dec 1984, Pg. 13-15

Katherin E. Keogh and Glenn I. Earthman
Keough and Earthman pose eight questions which will affect school population projections through the last half of the 1980's and into the 1990's. Are we in a baby boom? What is the average family? How many women are working? What will happen to enrollments in elementary and secondary schools? Which communities will experience growth? Regions? Curriculum changes? Each of the above is discussed with conclusions drawn. There is then a discussion of needed facilities at the secondary level to facilitate shops which will change from the former pattern to ones with highly technical elements. Conclusions: We are in a boomlet; the mid 1990's will see a return to the low rates of the 1970's at elementary levels and the wave will move through the secondary level. Certain locations within metropolitan areas will experience greater growth than others, and the west and southwest will be the principal areas of growth.

Planning Problems and Issues With Community Use of Educational Facilities

Vol 22, Num 06
Nov-Dec 1984, Pg. 15-18

Gail Ayers
Ayers holds that community use of schools simply makes sense. The question is no longer "why share schools?", but rather "how can facility planners and communities work together to make joint ventures effective?". The problem of establishing an administrative structure to keep planning teams focused on the cooperative goal is discussed and suggestions are offered. I.E.: incorporate citizens into the committee who hold the community wide view. No agency can have the power to override the "community" need, etc. Schools must open their doors to provide resources for other than children, and communication is the key to successful program change. Conflict is inevitable and must be managed. Schools will have to supply finite schedules for use of spaces for the entire year. Cost sharing formulas for custodial, utilities, etc. must be developed and honored. Ayers supports planning for shared use from the beginning of the design process. Summary: an interagency planning process is ideal for shared use issue. A planning diagram is included.

The Roles of Facility Planners in Controlling Costs of Educational Facilities

Vol 22, Num 06
Nov-Dec 1984, Pg. 18-21

David F. Engelhardt
Engelhardt discusses the role of facility planner in cost control prior to the construction phase. He defines cost as a broad issue and provides eleven options for cost reduction which do not involve reducing labor and material costs. Engelhardt also is careful to distinguish between owner and user although they may be one and the same (user wants the highest quality education program and owner must be pragmatic). He discusses the impact of four processes in the pre-design and site selection phase and seven in the design phase which offer opportunities for cost control or reduction. These touch on items such as the Ed. Spec., obtaining technical advice, preparation of a case statement, cost estimating, quality of design, attention to contractor time, etc. The facility planner has many opportunities to affect project cost and has a responsibility to examine all options while exercising quality control and considering life cycle issues.

Strategies for Opening and Occupying New Secondary Schools

Vol 22, Num 06
Nov-Dec 1984, Pg. 21-22

Kenneth E. Lane and Loren E. Betz
Lane and Betz examine and rank the ten most difficult areas of concern to administators opening new secondary schools along with the ten least difficult concerns. The difficult issues deal with landscaping, malfunctioning equipment, heating and cooling operation, design changes, flaws noted after opening, pre-completion move in, cleaning, contractor communication, storage of supplies and of keys. The ten least difficult deal with Superintendent communications, School Board communications, role definition for principal-parent involvement, community acceptance, counselor involvement, student parking, staff parking, stolen equipment, and preparation for opening. In summary, there are many issues which confront administators opening new schools, and even those ranked low can prove to be difficult issues. No user instructions come with a new school.

An Empirical Study of School Restroom Use

Vol 22, Num 06
Nov-Dec 1984, Pg. 22-24

Richard L. Hoag, Gerald Dizinno and Edward T. White
Hoag, Dizinno and White discuss a series of observations on restroom fixture utilization in a variety of schools and grade levels in a Florida school district seeking to validate or question state code requirements. A number of conclusions are made. Flushing counts do not represent use levels, the presence of observers sometimes does and sometimes does not affect counts and maintenance of restrooms along with perceived safety does affect use of facilities. The study suggests that further work should be undertaken because actual utilization at peak levels in male facilities would indicate a lower requirement than code 1-139 as opposed to a code requirement of 1-75 at middle school level.

The Task Force on Emergency Preparedness, Final Report

Vol 22, Num 06
Nov-Dec 1984, Pg. 24

Barbara Hutson
Hutson provides a tongue-in-cheek report recommending the use of treadle driven generators to provide power for typewriters and computers during emergency situations. Also recommended is the use of a one- mule cane mill to produce power for the switchboard along with the side benefit of the mill wheel being used to grind cane, corn, hops, etc. which could be converted to "energy" producing liquids.

Accommodating Special Populations (Dept #1)

Vol 22, Num 06
Nov-Dec 1984, Pg. 25

Yale Stenzler
Stenzler notes P.L. 94.142 as it relates to specific learning disabilities and discusses the need for therapy as related to those disabilities. Schools will need to provide time and spaces for certain of those needs. He notes that "visual clutter" is potentially difficult for this population, quoting another author, Dr. Betty W. Atterbury. Planners and architects should recogize the needs of this element of the school population and plan accordingly.

Accommodating Special Populations (Dept #2)—Mainstreaming

Vol 22, Num 06
Nov-Dec 1984, Pg. 26

Yale Stenzler
Stenzler notes the mainstreaming activity which is underway and observes that although much has been written concerning criteria, preparation, promotional activites, evaluation and in-service training, little has been written about facility adaptations, including accessability. He concludes that there is more activity occurring in schools than is being recorded in professional literature.

A Functional Approach to Determining the Size of a School Site

Vol 23, Num 01
Jan-Feb 1985, Pg. 04-06

Dean F. Bergman, Donald F. Uerling
The authors describe a methodology for determining school site size apart from the rule of thumb procedure which allocates acreage to a given grade level organization. The authors approach involves the identification of various functions to be accomodations on the site, the space needed for each function and the total acreage required. The functional analysis presented by the authors involves the use of a tally sheet where in the functions are organized into 5 categories: School Building Spaces; Outdoor Activity Areas; Administration, Service and Utility Facilities; Transportation Areas; and Aesthetic Space.

School Facility Cost Simulation with Microcomputers

Vol 23, Num 01
Jan-Feb 1985, Pg. 07-10

James Rose
The author describes a facility cost and space simulation computer program, "School Planner" which was developed at the University of Colorado-Boulder for teaching the relationship between educational secifications and cost in planning a facility. The program analysis changes in space and cost requirements by varying factors as: optimum class size; instructional space areas; utilization ratios; construction costs; weekly periods of instruction; class periods required per week; and total instructional space.

Boards of Education and System-wide Strategic Planning

Vol 23, Num 01
Jan-Feb 1985, Pg. 10-13

Edward R. Lilly
The author addresses the importance of planning within a school system and the relationship between the school board and the strategic planning process. The author outlines nine major activities contained in the strategic planning process and suggests the typical order of occurrence. The Board's role in the strategic planning process include: initiating the system-wide activities; reviewing Administrative data associated with the activities; and active participation.

Computerizing Educational Specifications

Vol 23, Num 01
Jan-Feb 1985, Pg. 14-16

H. Edward Lilley
The article illustrates how the use of a personal computer can simplify and expedite the process of developing educational specifications. The author describes the use of a spreadsheet and columnar data which can be analysed quickly to quantify the components of a school building program.

The Analysis of Criteria for the Utilization and Expansion of Educational Facilities

Vol 23, Num 01
Jan-Feb 1985, Pg. 17-19

Arie Beenhakker, Lillian C. Holtman
The authors provide an overview of research concerning the adequacy of space utilization standards for Florida's post-secondary educational facilities as required by Florida statutes. The reassess ment focuses on the problem of whether the following space utilization criteria are acceptable: The standard room use in hours scheduled per week; the standard station occupancy percentage for rooms used; and, the standard station sizes in square feet. The article contains suggested space utilization standards.

The Architect and School Administrator Relationship During Construction of School Facilities: Contract Administration

Vol 23, Num 02
Mar-Apr 1985, Pg. 04-06

Russ Groves
The author provides an overview of the constract administration phase of a construction project and the responsibilities of the contracting parties. He suggests that thorough and effective contract administration will benefit the owner in avoiding costly and time consuming legal and procedural entanglements.

An Analysis of Building Replacement Costs

Vol 23, Num 02
Mar-Apr 1985, Pg. 06-09

James E. McClelland
The author describes the results of a study of colleges and universities to identify the methods used in determining building replacement costs as well as the applications of these cost data.

Planning and Site Selection Involving Groups

Vol 23, Num 02
Mar-Apr 1985, Pg. 10-11

C. Kenneth Tanner
The author uses an example to identify the analytical process of site selection for a public facility to be used by 3 communities. The issues are identified and given a quantitative score which results in the ranking of the alternative sites.

A Comparison of Two Methods of Cleaning School Classrooms

Vol 23, Num 02
Mar-Apr 1985, Pg. 12-14

Derwood L. Tutor
The author describes a study to compare custodial staff cleaning with contracted custodial services in colleges and universities. The study concludes that both techniques can be successful maintenance operations. This study shows that institutional custodial staff to be the most favorable approach.

Selecting Campus Operational Levels in School Closure Decisions

Vol 23, Num 02
Mar-Apr 1985, Pg. 14-21

Brent Edward Wholeben
The author described a computerized simulation modal to analyse various factors to be considered in closing schools. The model is directed toward identifying which schools should be closed and how many.

Schools Energy Costs Cut Two-thirds

Vol 23, Num 02
Mar-Apr 1985, Pg. 21

Ed Churchill
The author describes case studies of energy conservation with resultant cost savings using a contracted shared savings approach.

Evaluating A Construction Product: Timing is Critical

Vol 23, Num 03
May-Jun 1985, Pg. 04

Kenneth W. Brooks
The author delineates the reasons for an evaluation of a constuction project and recommends that the timing is critical for this post occupancy evaluation which should be completed eleven months following substantial completion and beneficial occupancy of the project.

Evaluating the Completed Project

Vol 23, Num 03
May-Jun 1985, Pg. 05-06

Glen I. Earthman
The author delineates the reasons for conducting an evaluation of a completed construction project. The most neglected reason is to gather data on how people use and respond to the built environment and the author suggests more research should be directed to this issue.

Evaluating the Effect of Image on the Success of a Facility

Vol 23, Num 03
May-Jun 1985, Pg. 07-09

H. Edward Lilley
Facilities affect people consciously as well as subconsciously and positivaly as well as negatively. The author appraises the design considerations which will result in a total environment which is pleasing to the occupants as well as visitors and those individuals who would only have casual contact.

Integrate Evaluation into the Planning Process

Vol 23, Num 03
May-Jun 1985, Pg. 09-11

William Camp
The author analyses the use of the program evaluation and review technique (PERT) for planning and scheduling school construction projects. Because of PERT's inherent constraints he suggests using the geographic evaluation and review technique (GERT) which permits correction of the process while it is in operation.

Secondary School Capacity, Room Needs or Utilization

Vol 23, Num 03
May-Jun 1985, Pg. 12-14

Neil L. Gibbons
The author provides a computer program written in BASIC to analyse school capacity based upon the school's requirements.

Optimization in Facilities Management Planning

Vol 23, Num 03
May-Jun 1985, Pg. 14-16

James E. Bruno
The author addresses studies conducted on managing surplus real property resulting in school closures. The principal finding or the study was that linear programming modals provide analytical data to assist planning in the process of closing schools when experienceing declining enrollment.

Sonic Environment

Vol 23, Num 04
Jul-Aug 1985, Pg. 08-11

Kenneth Glass
The author cites various research indicating that teaching and learning are affected by noise. Furthermore, there is an increase in energy consumption after working in a noisy environment as compared with a quiet environment.

Enhancement Through Landscaping

Vol 23, Num 04
Jul-Aug 1985, Pg. 04-07

Charles Lindley
Landscaping is an important part of site development and should be included in the institution's master plan. The author suggests that lanscaping should be part of student activities, should highlight artistic and esthetic qualities while providing functional advantages as well as a contribute to learning, enjoyment and pride.

Physical Space: From Concept to Reality

Vol 23, Num 04
Jul-Aug 1985, Pg. 11-14

Harold L. Hawkins
This article examines six educational facility concepts in terms of theier relevance to the real world of education. These concepts are: openness; space relationships; quantity; quality; suitability; and, flexibility. Each of the concepts is presentedd in a historical perspective when possible, as an ideal level of utilization, and as a current reality.

Evaluating the Impact of the Building Enviornment on the Individual

Vol 23, Num 04
Jul-Aug 1985, Pg. 15-17

Glen I. Earthman
The author stipulates that that conventional wisdom in the area of school planning and design seems to indicate that the physical environment does indeed have an affect on the behavior, achievement and performance of the students and teachers who occupy the building. He further notes there is insufficient research data to adequately make some generaliztions abouth the relationship between achievement and the physical environment and suggests types of research which should be conducted in the future.

On-Line for Energy Magagement

Vol 23, Num 04
Jul-Aug 1985, Pg. 18-20

J. Howard Bowars Kenneth Moffett
The author suggest that energy management is an essential part of school management and computerizing energy management has several advantages. The article addresses the components and capabilities of computerized energy management systems as well as selected case studies which reflects cost savings.

Energy Conservation — Hero of Villian

Vol 23, Num 04
Jul-Aug 1985, Pg. 20-21

William J.B. Keith
The authors have concern over indoor air quality in light of the almost hermatically sealed buildings and lack of outside make-up air. The authors conducted tests on various pollutants to verify their concerns and suggest further testing and the establishment of a clean room for students with extreme allergies.

Converting Excess Public School Land and Facilities to Income Producing Assets

Vol 23, Num 04
Jul-Aug 1985, Pg. 21-22

Sharon S. Robison
The author summarizes a research project in Orange County, California. The study describes: uses of the land and facilities; the decision process as districts utilized to determine the uses of these assets; the legal, economic and political constraints faced in converting these assets to income properties; and, the skills district superintendents needed for this new entrepeneural role.

Tactics for Allocating Educational Space

Vol 23, Num 05
Sep-Oct 1985, Pg. 04-08

Stanton Leggett
This article addresses the issues relating to the use on assignment of space within a school in light of computing demands for a scarce resource. A computerized modeling program is presented upon the amount of time that will be generated in scheduled group learning periods and tracking that time under varying conditions of enrollment and program emphasis.

Management of the Space Resource — Space cost budgeting

Vol 23, Num 05
Sep-Oct 1985, Pg. 09-12

David Marsh William Griffith
The authors define the goals, indentify some of the issues, and suggest some alternate approaches whereby various units within the universite would be charged for the space assigned. The authors suggest that a fair and equitable method of charging the ultimate user for the cost of space will result in better management of the space resource.

Space Planning Guidelines for Institutions of Higher Education

Vol 23, Num 05
Sep-Oct 1985, Pg. 15-17

Kris Mullin Jack Probasco Mary Paula Schuh
The authors describe space planning guidelines which are useful in analysing the increasing demands for space caused by enrollment growth. When space is considered a budgeted resource these guidlines can provide the criteria which are needed in paterning the amount required for the various units and departments within a college or university.

Planning for Security

Vol 23, Num 05
Sep-Oct 1985, Pg. 18-19

John R. Kleberg
The author suggests that security planning must be an integral part of all of campus planning. Effort and reources devoted to crime prevention for exceed the return which might be realized with resouces committed to interception or investigation.

Measured Energy Performance of New and Retrofitted Schools

Vol 23, Num 05
Sep-Oct 1985, Pg. 19-22

Betsy L. Gardiner
There has been substantial investment in measures to improve the energy efficiency in educational facilities. Until recently there have been few attempts to document energy savings and cost effectiveness of energy conservation measures in buildings. The Buildings Energy Data Group at Lawrence Berkeley Laboratory, in an effort to fill this gap, compiled measured energy data on retrofitted buildings and the data analysis summarized in this article shows some trends in the energy performance of school buildings.

What Substantial Completion

Vol 23, Num 05
Sep-Oct 1985, Pg. 22

G. Kent Stewart
The author identifies the conditions for substatial completion of a construction project and offers suggestions to avoid arguments during the critical period of closing out a project.

Conflicts: Owners Vs. Architects

Vol 23, Num 06
Nov-Dec 1985, Pg. 04-05

C. William Day
This article summarizes a study conducted to examine the problems inherent in school building design and construction with regard to architect - school client conflict. Twelve broad categories of conflict were identities that included: programming, change orders, construction time, cost estimate, contract documents, supervision, etc. These areas of conflicts were evaluated by architects and school superintendents as to the perceived causal deterioration of the working relationship. An analysis of small districts (3000 students or less) vs. large districts and small architectural firms (50 or less employees) vs. large firms was also included. The findings and conclusions of this study were summarized in the article.

Facility Design: "The Consulting Architect's View of the Institutional Facility Manager"

Vol 23, Num 06
Nov-Dec 1985, Pg. 06-07

Roy Perlmutter
This article summarizes the advantages to an architect when working with a facility manager representing the owner. Assistance is provided in several of the design and construction processes including: procedural requirements, regulatory agency approvals, construction administration, move-in procedures and evaluation of design services.

Why Schools Choose Construction Managers

Vol 23, Num 06
Nov-Dec 1985, Pg. 07-09

Steven Hultgren
This article outlines the advantages to a school district in using a construction manager, to manage the uncontrollable. The construction manager is responsible for developing and maintaining the construction and occupancy schedule, maintaining the quality of the construction, controlling construction costs and providing value engineering in the design process.

Who Affects Costs of Constructing School Facilities

Vol 23, Num 06
Nov-Dec 1985, Pg. 09-10

C. William Day
This article analyzes several issues affecting the total cost of constructing a facility which includes: rate of inflation, clearly defines educational program, methods of construction changes during construction, unique designs, expensive systems and materials, state regulatory agency requirements, design fees, value engineering and changes in specific materials or equipment.

What's New in Educational Design

Vol 23, Num 06
Nov-Dec 1985, Pg. 11-25

Varies by project
This article contains an expose of current trends in architecture for education which includes: a new junior high school for 1,100 students in Fontana, California; A graduate research center for Atlanta University in Atlanta, Georgia.; A new physical education complex for North Eastern Illinois University in Chicago, Ill.; A health, physical education/dining facility for the State University of New York and Marcy, New York.; A magnet school in Dallas, Texas; and, a new elementary school in Oklahoma City, Oklahoma.